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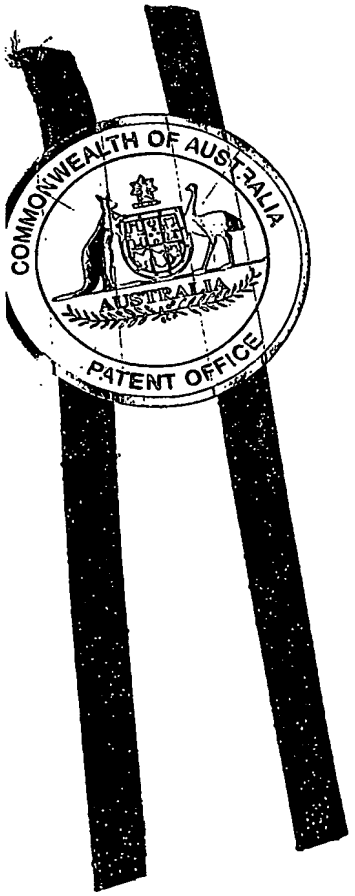

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Specification for Patent Application

TITLE	"A System and Method for Managing Resources and Rights"
APPLICANT	Andrew Venn Gordon Dunbar
COUNTRY	Australia
TYPE	Provisional
NUMBER	PS2471
DATE	21 May 2002

"A System and Method for Managing Resources and Rights"

Field of the Invention

The present invention relates to a system and method for managing resources and rights. The invention is particularly adapted to manage the sharing of resources such as compact discs, videotapes and books via the internet and for managing file-sharing in a computer network.

Throughout the specification, unless the context requires otherwise, the word "comprise" or variations such as "comprises" or "comprising", will be understood to imply the inclusion of a stated integer or group of integers but not the exclusion of any other integer or group of integers.

Background Art

The following discussion of the background to the invention is intended to facilitate an understanding of the present invention. However, it should be appreciated that the discussion is not an acknowledgement or admission that any of the material referred to was published, known or part of the common general knowledge in Australia as at the priority date of the application.

Many personal resources, such as compact discs, are under-utilised. One method of increasing the utilisation of such resources is to enter into sharing arrangements with others. However, this may involve substantial risk of loss or damage to the resource when the other members of the sharing arrangement are not known to the resource owner.

It is an object of one aspect of the present invention to instigate a system whereby a resource owner may increase the utilisation of personal resources by allowing such resources to potentially be used by other entities with whom the owner has an association.

Further, current file-sharing regimes require the file owner to set access level permissions on a world, group or individual status. This is cumbersome, as new entities that need access to files may need to be included in an existing group having permission to access the file or the access level permissions may need to be modified. A simpler method is to allow access level permissions to be based on the individual accessing the file. However, it can be resource intensive for multiple users to keep a simple list of all individuals and the files they may access.

Accordingly, it is an object of a second aspect of the present invention to allow for the setting of file access levels on an individual basis based on the level of association between the file "owner" and the entity seeking access to the file.

Disclosure of the Invention

In accordance with a first aspect of the present invention there is provided a system for managing resources comprising:-

a set of entities, each entity of the set having an association with at least one other entity of the set; and

a set of resources owned by each entity;

wherein a first entity of the set of entities determines the subset of resources owned by the first entity that another entity may use or view details of, based on the minimum number of associations that exist between the first entity and the other entity.

For example, consider three entities: A, B and C. If A and B have an association, under the present invention B will be able to use or view details of resources A has deemed appropriate to be used or displayed to entities with whom A has a direct association. Further, if B and C have an association, C is able to use or view details of resources B has deemed appropriate to be used or displayed to entities with whom B has a direct association AND use or view details of

resources A has deemed appropriate to be used or displayed to entities with whom A has a 2-degree association. However, if A and C have an association, C's association with B is disregarded for the purpose of determining what of A's resources and rights C may use or view details of.

In accordance with a second aspect of the present invention there is provided a system for managing rights comprising:-

a set of entities, each entity of the set having an association with at least one other entity of the set; and

a set of rights granted to each entity;

wherein a first entity of the set of entities determines the subset of rights granted to the first entity that another entity may exercise or view details of, based on the minimum number of associations that exist between the first entity and the other entity.

Preferably, the first entity may exclude any other entity from using, exercising or viewing details of the first entity's resources or rights regardless of the number of associations between the first entity and the other entity.

Preferably, the first entity may exclude any other entity, and entities related to that other entity, from using, exercising or viewing details of the first entity's resources or rights regardless of the number of associations between the first entity and the other entity.

In accordance with a third aspect of the present invention there is provided a method of managing resources comprising:-

forming an association between a first entity in a set of entities and at least one other entity in the set of entities;

defining a set of resources owned by the first entity; and

determining the subset of resources owned by the first entity that another entity in the set of entities may use or view details of, based on the minimum number of associations that exist between the first entity and the other entity.

In accordance with a fourth aspect of the present invention there is provided a method of managing rights comprising:-

forming an association between a first entity in a set of entities and at least one other entity in the set of entities;

defining a set of rights granted to the first entity; and

determining the subset of rights owned by the first entity that another entity in the set of entities may exercise or view details of, based on the minimum number of associations that exist between the first entity and the other entity.

Brief Description of the Drawings

An embodiment of the invention will now be described, by way of example only, with reference to the accompanying drawings, of which:

Figure 1 is a screen display illustrating the typical e-mail message users may send to their friends to introduce them to the FoF system.

Figure 2 is a screen display of the terms and conditions of use of the FoF system.

Figure 3 is a screen display of the personal details screen.

Figure 4 is a screen display of the confirmation of friend screen.

Figure 5 is a screen display of the invitation list screen.

Figure 6 is a screen display of the asset entry (asset identification) screen.

Figure 7 is a screen display of the asset entry (asset selection) screen.

Figure 8 is a screen display of the asset entry (asset categorisation) screen.

Figure 9 is a screen display of the asset entry (asset authorities) screen.

Figure 10 is a screen display of the asset entry (asset condition) screen.

Figure 11 is a screen display of the asset entry (asset swapping) screen.

Figure 12 is a screen display of the friends of friends access control screen.

Figure 13 is a screen display of the exclusion list screen.

Figure 14 is a screen display of the Ezine opt in/opt out screen.

Figure 15 is a screen display of the confirmation of friend joining screen.

Figure 16 is a screen display of the browsing library – library summary screen.

Figure 17 is a screen display of the browsing library – category screen.

Figure 18 is a screen display of the Loan request screen.

Figure 19 is a screen display illustrating a typical e-mail borrowing request.

Figure 20 is a screen display of the loan acceptance request screen.

Figure 21 is a screen display of the loan confirmation screen.

Figure 22 is a screen display illustrating a typical e-mail reminder.

Figure 23 is a screen display illustrating a typical overdue e-mail reminder.

Figure 24 is a simple database structure of the friends of friends library.

Figures 25a and 25b are pseudo-code representations of the dynamic library list generation.

Figure 26 is a pseudo-code representation of the list of authorised OwnerIDs by Asset Category module.

Figure 27 is a flow-chart of the online registration process – personal details module.

Figure 28 is a flow-chart of the invitation to friends module.

Figure 29 is a flow-chart of the online registration – asset details module.

Figure 30 is a flow-chart of the online registration – asset lending categorisation details.

Figure 31 is a flow-chart of the online registration – lending policies – FoF access control module.

Figure 32 is a flow-chart of the exclusion list on FoF module.

Figures 33a and 33b are flow-charts of the Browse/borrow functionality module.

Figure 34 is a flow-chart of the returns, overdue and damaged items module.

Figure 35 is a flow-chart of the online registration – corporate intranet module.

Figure 36 is a flow-chart of the online registration –asset lending categorisation details.

Figure 37 is a high-level structure chart of the system for managing resources and rights.

Figure 38 is a structure chart of the user registration process of the system illustrated in Figure 37.

Figures 39a to 39i graphically represent the FoF system.

Best Mode(s) for Carrying Out the Invention

An embodiment of the present system and method for managing resources and rights will now be described. Figures 27 through 36 illustrate aspects of the system as a flow-chart. Figure 24 illustrates the database structure to be used in the system. Figures 37 and 38 illustrate the general structure of the system.

Key Processes

There are two key processes within this application/system :

1. User registration (including asset registration and inviting friends)

2. Borrowing Function

Both these processes are described in some detail below.

In addition to these sections the other features of the system are explained.

Summary of Features

The key features of this system are:

Dynamic library – constantly evolving and increasing library unique to each user

Friend of friends network – enabling trust amongst groups of users

Assisted asset registration – via on-line database

Assisted asset management – including potential for on-line registration of assets to insurers

Assisted lending process – ensuring record keeping of all asset loans, overdue reminder processing.

Wanted list functionality – users are able to see what their friends would like to have or borrow.

SECTION 1 - Membership

Invitation

A person - such as Fred receives e-mail such as the one shown in Figure 1 from George to his friend.

As you can see from Figure 1 it is a simple e-mail with two hyperlinks – one for joining and another for declining.

These hyperlinks both take you to the system, but to different places, the first through to the user registration process and the second to a Thank you page that discretely tells the person what they are missing out on and a promise not to contact them again.

The user is not restricted to only being invited to by a friend, but also may just go to the home page and hit the "Join Now" button to bring up the registration process, the only item that would be different is that the system would not automatically assign a friendship link that would be the case in a invitation based registration.

STEP 1: User Agreement

STEP 1.1 User License Agreement / General Conditions of Use

See Figure 2.

Will include:

- Accept / Reject Buttons
- Fair use of system
- Misuse or use for illegal purposes
- Under-age use
- Privacy
- Damage to Lent Items
- Other

General

This section will get basic agreement to the use of the library – for detailed examples refer to Hotmail's or Yahoo's terms of use.

Privacy

General privacy statement in-line with international standards. Allows summarised non-individual specific marketing information to be sold. No release of e-mail addresses or personal data.

Damage to Lent Items

Special item here is the Damage to lent items, which says in effect by borrowing an item you agree to pay the owner for any damage using simple rules outlined in the website.

Eg: CD damage

Description of Damage	% of Original Purchase Price
Case Broken	1%
Cover Design Damaged	3%
Stratch – no playback probems	Nil
Scratch – 1 track not playable	10%
Etc.	

This creates a simple obligation for the reparation of damage caused and is used as a guideline and makes dispute settlement easier and it also easier to ask a friend to make good on damage done – "Hey the website says I get 10% of the purchase price for that – I will accept $1 instead"

STEP 1.2 - Confirmation of Friend

This is a simple confirmation that x who invited the registering user is a friend and a link to explain how the friends-of-friends network works. This initiates the friends-to-friends linkage critical to the eLibrary. This avoids the assumption that the person joining is automatically a friends of the person initiating the contact. There are serious security implications of doing so without knowing the individual.

See Figure 4.

STEP 2: User Details

STEP 2.1 Personal Details

See Figure 3.

Will include:

- Username
- E-mail
- Age Category (including under-age for restriction of content)
- Sex
- Earnings Category
- Nearest Capital City
- Partial Zip Code / Postcode
- Other simple demographic information.

This process will mirror in most ways the standard industry user creation utilised by Hotmail, Yahoo and others which would include a user verification phase via e-mail.

STEP 3: Link to Friends

STEP 3.1 Input e-mail of friends to be invited

For this library system to work not only does the individual need to enter his or her own assets but must also invite others to join, so that they can share their assets.

This system at registration facilitates this via the request for the user to enter friend's e-mail addresses for an invitation to join.

This screen has two sections, the first is a section that allows for up to 10 e-mail addresses to be entered. These e-mail addresses may be automatically obtained from the registrant's e-mail program.

The second section has free-form text so that the user can give an explanation of this system, it will default to a suitably friendly review of the system that the user can write over if they so wish.

The result of entering this information is to create a series of e-mail invitations to the user's friends with hyperlinks to getting registered and confirming that they would like to join their friend using this system.

See Figure 5.

Discretely on this page will be a link to the system's privacy policy that gives emphasis to the No-Spam policies (similar to Hotmail etc.)

STEP 4: Initial Asset Input

This phase involves the user entering items into his/her asset list and then allocating lending criteria to those assets.

It has been deliberately restricted to no more than 10 items on the initial load so that users are not discouraged by the amount of information that needs to be uploaded.

Further assets can be loaded once registration has been completed. In addition it is envisaged that there would be a full asset management sub-system that would allow the addition, deletion and changing of any individual item.

STEP 4.1 Asset Creation

Screen 1 – Item Number Entry

Whilst some items are would not have a unique code to identify them, most CDs, DVDs, Videos, Games and books have a relatively unique number that enables easier information upload, by entering this first and the system providing a list of the potential matches already in the database.

There will be an initial upload of most standard items into a database for ease of reference any additional items can be obtained from information users enter (after some verification).

See Figure 6.

Will include:

- Simple categorisation of item (see Appendix A for a list of the current categories envisaged to be used)
- Part No./ ISBN / EAN / Other code Entry
- Overtime the database will grow however to kick start it commercial databases could be purchased, ideally with graphics of the covers – such as Amazon has.

Screen 2 – Selection of item

A simple hyperlinked list of items will be displayed from the data provided on the first screen. Selection of item from this list will then bring up all the relevant data and ask for verification that this is the item to be added to the user's asset list.

See Figure 7.

Screen 3 - Asset Identification & Categorisation

This screen enables the user to define additional categories for the item. For example based up location or individual's ownership within a family unit. Eg. Dad's CD Collection, Joe's Playstation Games, Holiday Home Music.

These categories are used by the individual for asset management and are not planned to be included in the data available through the lending process. Some restrictions based upon subscription type may be optionally employed.

See Figure 8.

Screen 4 - Asset Lending Authorities

The purpose of this section is to categorise the asset by how the user wants to lend and let others know about this particular item.

There are a number of basic categories:

- Invisible – only the owner can see, other users will not know that it is there
- Age Restricted – for legal reasons and for parental controls
- Reserved – can be seen by others but will not be lent out
- General – can be seen and borrowed by friends

See Figure 9.

Screen 5 - Asset Condition & Other information

This section enables the owner of the item to record any damage to the asset when entering it into the system.

This recording of damage will be based upon the asset category; after all there is little point in detailing a scratch on a lawnmower but a scratch on a CD can mean that it is worthless.

See Figure 10.

Screen 6 – Item may be swapped

This section enables the owner of the item to record whether he/she is interested in swapping the item for something else and what that swap might entail.

This would include, identification of the item, specifying what the other asset would need to be and whether the swap was limited to the friends-of-friends dynamic network or to the world as a whole.

See Figure 11.

STEP 5 - Lending Policies

This section is critical to the whole library functionality. The friends-of-friends dynamic network is managed by what the individual members set as their Friends-of-Friends Access Level for a detailed description of this functionality refer to separate documents provided.

In addition, other users can be added to exclusion lists if need be to further control who has access to view and potentially borrow the user's assets.

STEP 5.1 Friends of Friends Access Control

For a visual representation of the Friend-of-Friends network of trust refer to Figures 39a to 39i.

This section is where the user specifies how widely his assets can be viewed and therefore potentially lent.

The user enters for each major category what level of access is granted, using the following numerical friends level system:

Level 0	No friends can see the assets the user has
Level 1	Only direct friends can see the assets the user has
Level 2	Only direct friends of the user's direct friends are able to see the assets of the user
Level 3	etc.
Level N	All the world can see (not recommended)

Whilst in practice only levels 0,1 and 2 will be used the key point is that it is up to the user to set this and monitor who can view his assets.

See Figure 12.

STEP 5.2 Exclusion Lists

This section is where the user specifies particular individuals that are excluded from viewing the user's asset list for reasons of security.

There will be times when there are people that a user does not want to share his information with and so exclusion lists are part of the security system. Exclusion can be on the basis of an individual or the individual and all his/her friends. Again a relatively simple process whereby the user adds individuals to a list, then specifies whether it is just the individual or all his/her friends.

In practice this is unlikely to be used much on initial registration, but might later.

See Figure 13.

STEP 6 - Opt-in e-Zines

Common with most membership-based systems now in place, the user is given the option of opting into a number of different e-Zines. This is part of the permission based marketing efforts that will be instituted to pay the bills.

For an example see the opt-in E-zines available from Hotmail.

See Figure 14.

Basic layout is a series of checkboxes that can be selected to enable us to send them various types of eZines targeted towards their interests.

Also a note on the page that as part of the provision of this service we reserve the right to contact them once a month with special offers.

SECTION 2: Functionality eLibrary

Friends of Friends dynamic web creation example

The basic functionality of eLibrary depends upon users inviting friends to join and then sharing the assets/items that they have. Figure 15 shows the e-mail from eLibrary informing one such friend that the friend he invited to join eLibrary did so.

Once Fred has, as we have explained earlier, loaded his assets into eLibrary then assuming he has set the appropriate security level then George will be able to browse them and perhaps borrow certain items that are of interest to him. And likewise of course Fred.

For a more detailed explanation of the friends-of-friends web of trust see the separate white paper on this topic. In essence a number of friends and in fact

even friends of friends can be linked via this network and as a result all their assets that they wish to share can be viewed and potentially be borrowed.

Below is a simple report from eLibrary giving all the friends and friends-of-friends within George's network after Fred has invited his friends. From this diagram you can see that Georges has only two direct friends, but substantially more links to friends-of-friends (10).

eLibrary - Friends in your virtual network

		TRUST LEVEL			
No	*1*	*2*	*3*	*4*	+
1	fred@hotmail.com				
2		harry@yahoo.com			
3			steve@yuhu.com		
4			wyatt@ok.com.au		
5		david@ibm.com			
6		barry@aol.com			
7			alexy@jiqq.com.au		
8					freedom@
9	alison@hotmail.com				
10		truddy@aol.com			
11		harriet@yahoo.co.uk			
12		maxine@amazon.com			

If for example each of these 12 users had 20 assets listed then the number of items that George would see in addition to his own would be 240 items. This is the essence of the eLibrary system – community sharing.

For a description of the algorithms involved in the generation of the Library list from the friends of friends assets see Figures 25a, 25b and 26.

Browsing eLibrary

Browsing through the eLibrary system, is similar to any other browsing of indexes done in a traditional library.

At the start their would be a summary of the status of the library, number of users, assets available and a breakdown by category. Searching using a search

functionality is available, but also simple browsing by following the clicks would bring people to lists of items that they might be interested in borrowing.

See Figure 16.

Clicking on the PC Games link would result in the screen shown in Figure 17.

On this screen by clicking on the title would bring up details of the asset in question, by clicking the owner it would give further information regarding the owner and a list of the assets that he has added and the borrow link would result in a borrowing action described elsewhere.

In addition searches would bring up similar lists based upon criteria such as:

- Category
- Author/Director
- Publisher
- Title
- Genre
- Newly added titles
- By owner
- By age (from initial publication)

Further Browsing & Reporting

In the future other forms of browsing will be available to users, these include:

- download to PDA / WAP Phone – enabling the downloading to a PDA or WAP phone means that this process can be done whilst not directly connected to the website.

- web-page serving – enabling pages to be inserted on personal web-pages of the assets of that individual – including graphics (enabling the person to say come and have a look at what I have got)

In addition to browsing assets, there would be a series of reports available from the eLibrary:

- listing of assets by category

- items on loan – listing all assets lent out, whom to and expected date of return (overdue items highlighted)

- item loan history by user

- downloading into excel (or text file) assets by category, including value for insurance

Standard Loan Process

STEP 1 - Browsing

Browsing through the eLibrary, either by looking at individual items or searching for a particular one will in most cases lead to a user wanting to borrow an item from another user (owner). This is therefore the first step in the borrowing process.

Alongside the item displayed is a button/hyperlink "Borrow" which then triggers a loan request form to appear listing all the relevant information.

See Figure 17.

STEP 2 - Loan Request Form

The loan request form looks like the one shown in Figure 18 which has the user enter the borrowing dates and then enter a personal message enabling a friendly request and at the same time a method for pick-up.

Other areas where this design might change would be the ability to borrow more than 1 item per request form, using some type of shopping cart like process.

STEP 3 - E-mail to Owner

The result of the loan request is an e-mail such as the one shown in Figure 19 arriving in the owner's inbox and a copy to the requesting user. Which has hyperlinks back to the website to respond via another e-mail form. Simple replying to this e-mail will cause the transaction to be lost – so there will be an auto responder on the eLibrary e-mail address so that users understand that this e-mail can not be replied to in this way.

The selection of one of the three alternatives takes you back to the website with all the relevant information uploaded due to the transaction key information embedded in the URL.

See Figure 19.

Note: That the e-mail automatically inserts the relevant information about the item including price and status condition and also the period of time the loan would be for.

STEP 4 - Owner's Response via Hyperlinks

Once the owner clicks one of the hyperlinks on the e-mail it brings up the form for the confirmation of the acceptance of the loan. This enables the owner to add a message to the user borrowing the item. This will then send a simple e-mail back to the user attempting to borrow the item.

Note: The key features here are the borrowing record and the details per-loaded so the owner need only put in a personal message and the note can be sent.

See Figure 20.

STEP 5 – Owner's E-mail to User

This would be an e-mail in a very similar format to the one issued to the owner, but in this case giving the owner's response. Therefore one has not been included here. This e-mail is also copied to the owner so that final confirmation can be achieved by following a hyperlink in the text of the e-mail.

STEP 6 - Owner's Confirmation of Loan

By using the links in the acceptance e-mail, the owner can quickly confirm the loan was made. Here the final loan dates are able to be changed. This process obviously requires all the previous steps to be done. This form not only sends an e-mail to the owner and the borrower confirming all the details but also is the basis for the eLibrary to manage the loan and make reminders and marks the item as out on loan to George.

Clearly this form is the basis for most of the automated processes that the eLibrary will perform.

See Figure 21.

STEP 7 - Automated Return Request

eLibrary has an automated process to alleviate the owner of the need to remind the borrower to return the item. It is a e-mail similar to the other e-mails with a set of hyperlinks enabling the user borrowing the item to make arrangements to return the item or borrow it for longer.

A copy of the e-mail is sent to the owner so that he/she is aware of the impending return of the item.

See Figure 22.

STEP 8 - Notification of Return

This step involves the borrowing party to click on the hyperlink and make arrangements to return the item to the owner. Again this is done via a similar form based system that generates an e-mail. Whilst this step is not completely necessary as the telephone could be used to make the arrangements the functionality is included for users.

STEP 9 - Confirmation of Return

It is up to the owner of the item to confirm its return; again this can be done via a hyperlink from the notification or reminder e-mail.

The form used for this is again similar to the ones already shown with the following exceptions:

- Confirms the date of return
- Confirms the status of the item returned, ie if it is damaged
- Allows for the owner to send a note to the borrower
- Allows the owner to make comment about his/her experience with this borrower

Again this confirmation generates an e-mail back to the borrower, confirming to him the return is appropriately registered. If there is any dispute arising the e-mail can form the basis of any dispute resolution.

The form also updates the database so that the item is now registered back into the owner's list as being available again. The status changes if necessary. The borrower's record is updated – this process will be most likely a combination of the owner's response and the automated calculation of how late the item was returned and if it was damaged. (ie. the owner can modify the systems calculation of how good the borrower was to allow for exceptions)

STEP 10 – E-mail confirmation

Final automated e-mail to borrower and copy to owner confirming that the item has been returned and the eLibrary system has made the appropriate changes to its database.

Damaged Items

As part of the eLibrary damage is recorded against items that are lent and the system uses preset and agreed tables for the calculation of % damage and hence amount that should be paid in reparations. This part of the system is designed to enable users to clearly manage the issue of damage. Of course it can be over ridden but it is intended to create an moral if not binding obligation on the part of the person who inflicted the damage.

See earlier for an example of the damage calculation table for CDs, whilst this is at this stage a mock up of the table the basic concept is at least seen here.

Other information

Other information maybe included in this lending process, such as the reviews by borrowers of the items. Eg. Books reviews. Owner's review of the item. A simple check box on entry to indicate whether you have read the book or watched the video

Manual Loan Process

In addition to this structured process using e-mails to return to the web-site and the forms, the system will have a manual navigation to the key forms to enable the user to manually change lending data. For example a friend might drop by and see a book he wants to borrow, you can go directly to the confirmation page and enter the person's e-mail address and the form handles the rest.

Overdue Warnings

Failure to return an item on time will prompt the system to issue warnings automatically until the owner advises that the item has been returned. An example of one is shown in Figure 23.

The process is completely automated and relieves the owner of the trouble of having to follow up these things themselves. This reduces workload and at the same time reduces the embarrassment of having to ask a friend to return something.

SECTION 3 - Corporate Functionality

This same system with some minor changes as explained below can be used in the corporate environment where the devolution of libraries continue. This system will have the advantage of maintaining control over the company assets but in a decentralised manner.

Membership

Membership is managed in the case of corporate system centrally through the same administration group as those that would manage the e-mail system within an organisation. Under a corporate licence users would not be able to invite other users to join in effect the membership database would be a simple list of employees.

Modified Friends-of-Friends functionality

The friends-to-friends functionality would be significantly restricted in the case of a corporate user. The structure would resemble more the classic one-to-many relationship. The technical implementation would be that there would be a special user for the company and each employee would be defined as a friend of the company and all employees would have Level 2 Friends-of-Friends security, allowing them to share with other employees only.

Lending Process

Basically here would be no change to the lending process.

Additional Corporate Functionality

There are a number of other pieces of functionality that can be added for a corporate user, some of these are outlined below:

User Management Functionality

Clearly the management of all the users within this system would need a number of tools to help assist. The key one would be the automated upload of batches of users to save the individual entry of each and every user.

In addition it is envisaged that the system can ping e-mail addresses to confirm if the user still exists on the corporate network that would enable the identification of users that have left the organisation.

Use of Corporate Logos

Instead of the usual eLibrary logos and advertising, the pages served to a corporate user could include the corporate logo and information, making it seamless for the user going through the corporate intranet.

Policy and Procedures Statements

In addition, additional pages can be served giving the user the standard company's policy and procedures around the registration of assets (such as books) and the return policies when the employee leaves.

A number of standard policy and procedure statements would be available for the company to pick. With a potential link to the company's purchasing function.

Management

Asset Management (My Assets)

Add items

Maintenance of an asset listing, will from time to time include the addition of other assets, this can be done using this section of the web-site and basically follows the section outlined during the user registration.

Edit items

Edit items, enables the changing of item information, eg. description or damage status. Nothing particularly clever here.

Delete Items

From time to time items will be sold, destroyed or lost, in which case they will need to be deleted from the system, this is the mechanism to do this. Obviously only the owner of the item can delete it.

Friends Management (My Friends)

Add friend

From time to time further friends need to be invited to join and share their assets. This is the place to set this up. Again it is basically the same as the first registration part.

Re-issue invitation

Sometimes an invitation gets lost or ignored and it needs to be resent. This is the mechanism for this.

Delete friend

Sometimes friends are no longer friends for one reason or another this mechanism allows the user to delete friends from their list.

Security Management (MySecurity)

Change Friends-of-friends access control level

Changes to the level of access given to the friends network can be changed here.

Edit Exclusion List

Additional users can be added to the exclusion list via this functionality. In addition users can be removed from the exclusion lists also.

Additional Functionality

In addition to the core functionality described above the system can have the following additional features:

Wanted Lists

This functionality would enable users to not only enter assets that they currently have but also enter items that they were interested in for the future. This in terms of functionality would be similar to the functionality to add an asset. The key advantage here is that a list of wanted items would also be shared so that users could see what their friends were also interested in, potentially changing their purchasing patterns.

Swap Functionality

This functionality has been touched on previously during the description of the upload of assets. The key here is that the user flags the items that the user wants to be able to swap. The friends-of-friends network enables users to see these items and know that the user is interested in swapping the items. This process uses a form to send to the owner proposing a swap for an item that they have in their asset list.

eLibrary does not participate in this transaction but basically provides the enabling technology.

Discussion Lists

Discussion lists for people who want to discuss how this system works, improvements that they would like to see and of course to discuss the contents of their libraries and particular movies or books.

Chat Rooms

Use of chat rooms to deliver user help for their problems. To also further foster friendships and communities.

Site Management Tools

There are a whole series of site management tools that will be needed to administer and control this business. In addition to the usual ones such as delete user there are the following:

Analyse Database

This functionality will enable the data-mining of the database to provide market intelligence to third parties for a fee. Obviously privacy of the individual will be maintained at all times but there would be market research firms and others that might find this information interesting.

Manage e-Zines

Functionality will be required to manage e-Zine content and subscribers.

Membership Applications

The eLibrary can optionally have different membership levels allowing more functionality at a price. The membership databases will need to be maintained. And the collection of payment information managed.

Loyalty Card Based System

The key to this part of the system is a loyalty card, similar to FlyBuys and other similar systems, however rather than free give-a-ways, this cad has the following features:

- It automatically uploads the assets into your asset list in eLibrary
- It keeps record of the receipt – enabling the return of goods without receipt

- Could automatically register you for rebates (US Based system – see HP)

- Could automatically do product registrations

Process

The key process would involve swiping the card through the EFTPOS machine prior to purchasing to log the sale. This will result in the transfer of the relevant asset information so that there is no need to manually upload the data.

It should be appreciated that the invention is not limited to the particular embodiment described in relation to the best mode for carrying out the invention and that modifications or improvements obvious to the person skilled in the art are included within the scope of the invention.

Dated this day of

Applicant

Andrew Venn and Gordon Dunbar
Perth, Western Australia

Figure 1

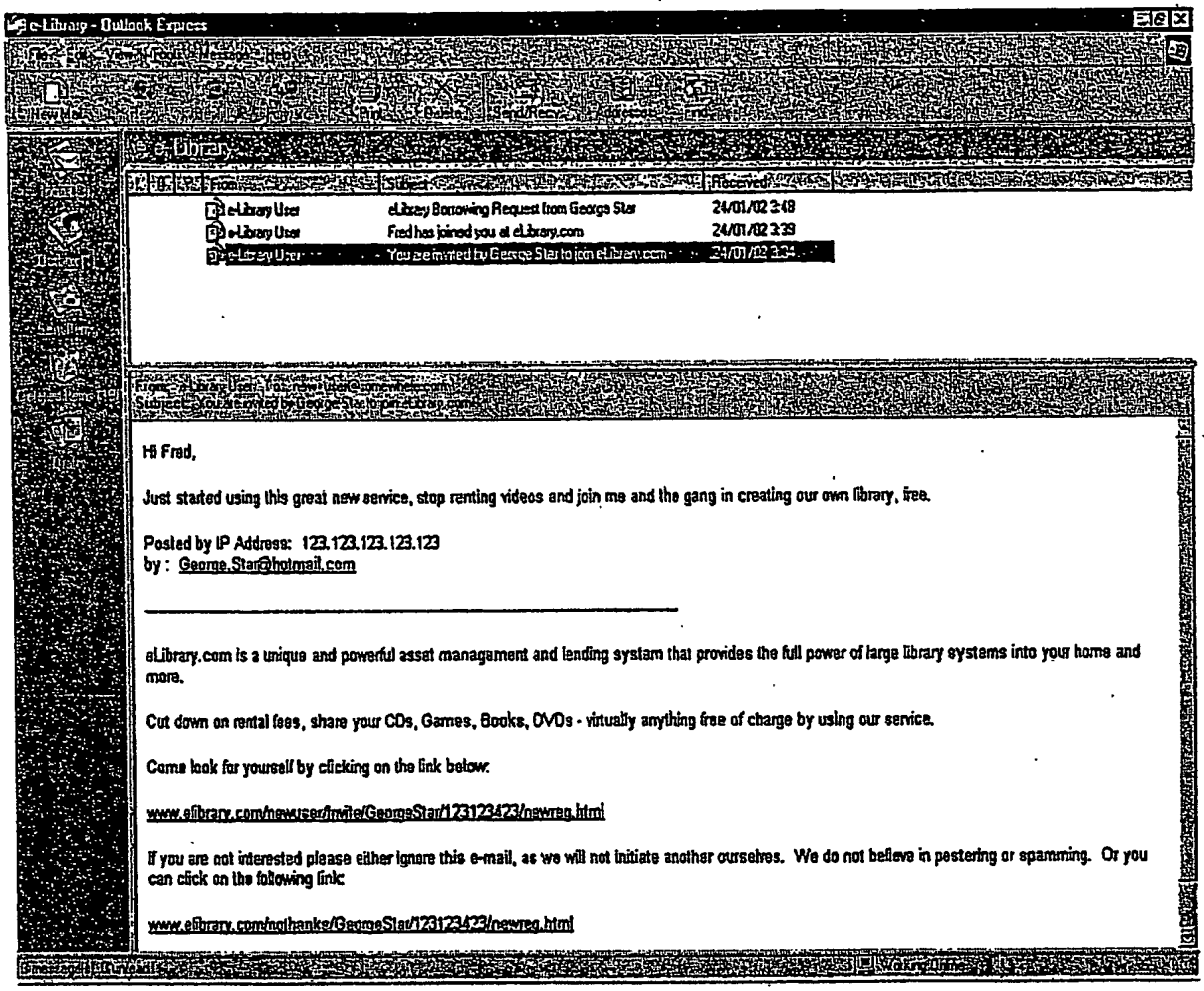

e-Library - Outlook Express
e-Library
e-Library User
eLibrary Borrowing Request from George Star
e-Library User
Fred has joined you at eLibrary.com
Hi Fred,
Just started using this great new service, stop renting videos and join me and the gang in creating our own library, free.
Posted by IP Address: 123.123.123.123.123.123
by : George.Star@hotmail.com
eLibrary.com is a unique and powerful asset management and lending system that provides the full power of large library systems into your home and more.
Cut down on rental fees, share your CDs, Games, Books, DVDs - virtually anything free of charge by using our service.
Come look for yourself by clicking on the link below:
www.elibrary.com/newuser/invite/GeorgeStar/123123423/newreg.html
If you are not interested please either ignore this e-mail, as we will not initiate another ourselves. We do not believe in pestering or spamming. Or you can click on the following link:
www.elibrary.com/nothanks/GeorgeStar/123123423/newreg.html

Figure 2

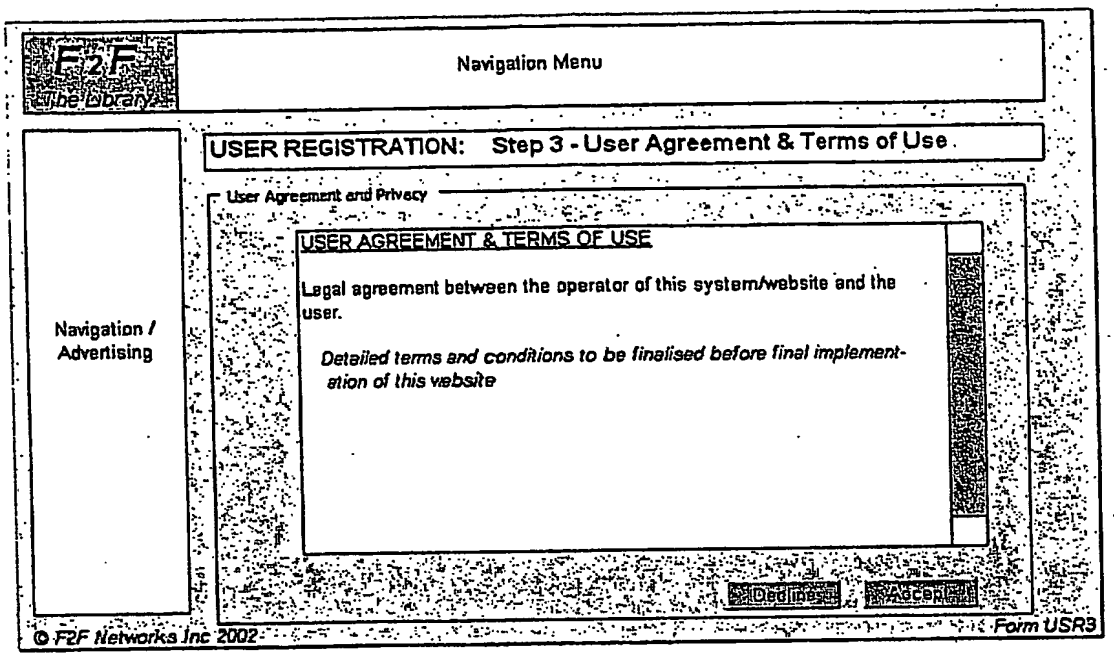

F2F
The Library
Navigation Menu
USER REGISTRATION: Step 3 - User Agreement & Terms of Use
Navigation / Advertising
User Agreement and Privacy
USER AGREEMENT & TERMS OF USE
Legal agreement between the operator of this system/website and the user.
Detailed terms and conditions to be finalised before final implementation of this website
Decline
Accept
© F2F Networks Inc 2002
Form USR3

Figure 3

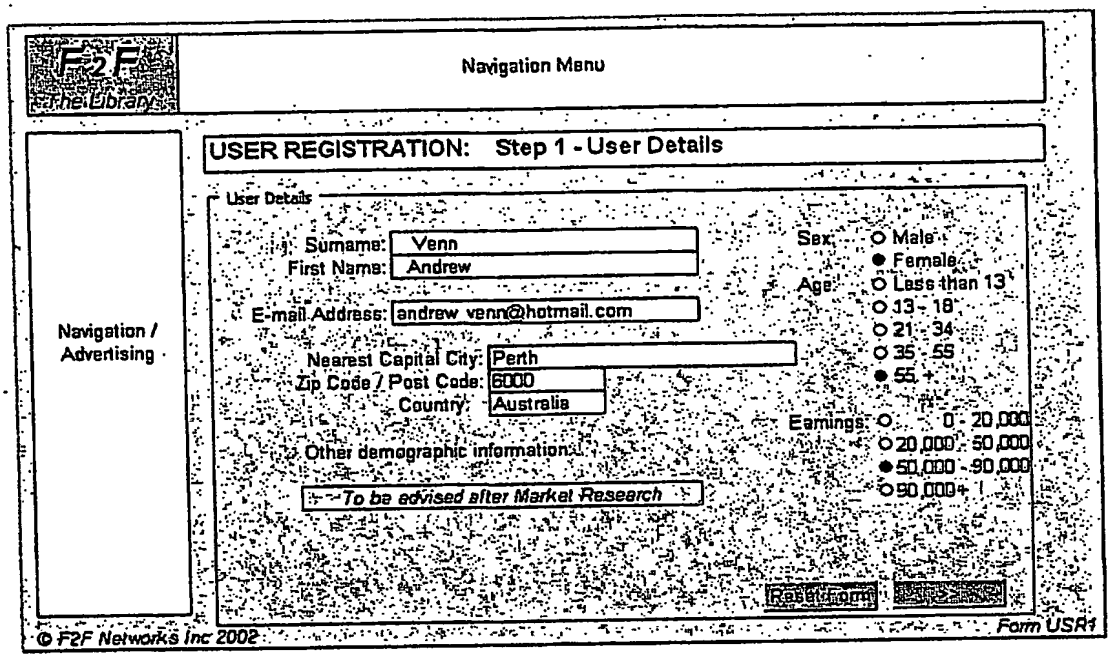

F2F The Library
Navigation Menu
Navigation / Advertising
USER REGISTRATION: Step 1 - User Details
User Details
Surname: Venn
First Name: Andrew
E-mail Address: andrew_venn@hotmail.com
Nearest Capital City: Perth
Zip Code / Post Code: 6000
Country: Australia
Other demographic information
To be advised after Market Research
Sex: Male Female
Age: Less than 13 13 - 18 21 - 34 35 - 55 55 +
Earnings: 0 - 20,000 20,000 - 50,000 50,000 - 90,000 90,000+
Reset Form
Submit
© F2F Networks Inc 2002
Form USR1

Figure 4

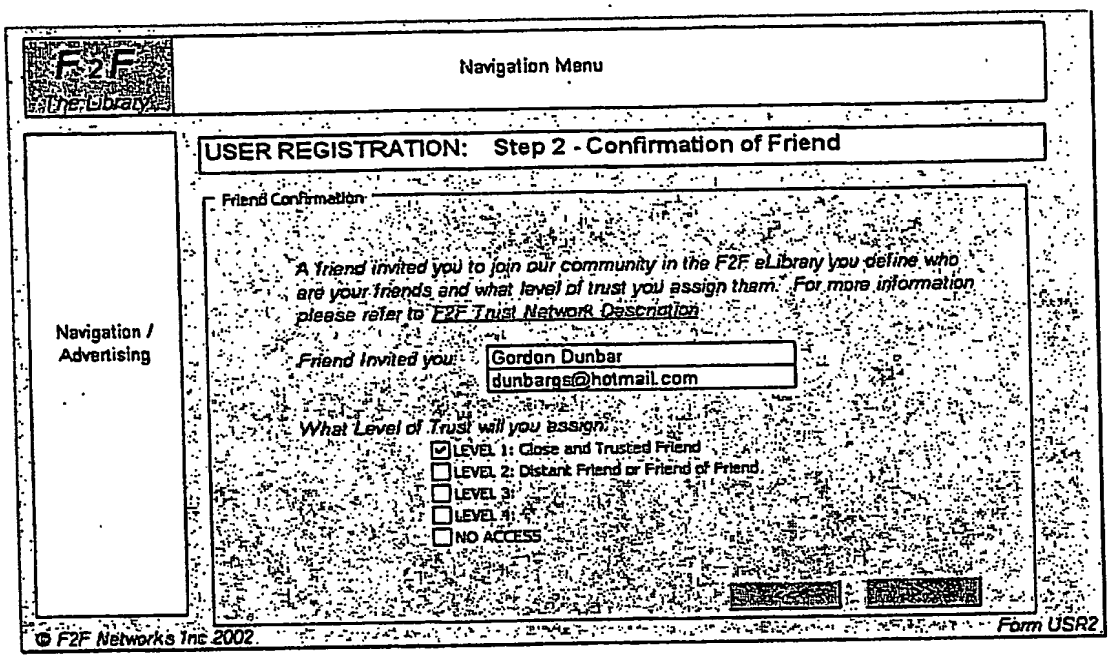

F2F
eLibrary
Navigation Menu
Navigation / Advertising
USER REGISTRATION: Step 2 - Confirmation of Friend
Friend Confirmation
A friend invited you to join our community in the F2F eLibrary you define who are your friends and what level of trust you assign them. For more information please refer to F2F Trust Network Description
Friend invited you:
Gordon Dunbar
dunbargs@hotmail.com
What Level of Trust will you assign:
LEVEL 1: Close and Trusted Friend
LEVEL 2: Distant Friend or Friend of Friend
LEVEL 3:
LEVEL 4:
NO ACCESS
© F2F Networks Inc 2002
Form USR2

Figure 5

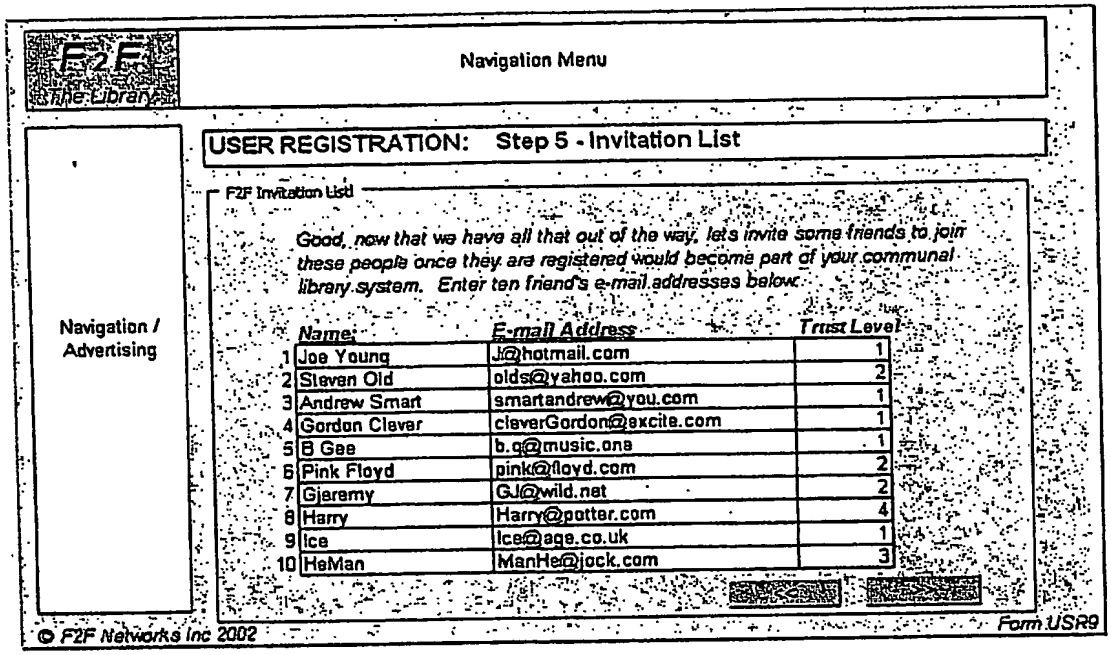

F2F
The Library
Navigation Menu
Navigation / Advertising
USER REGISTRATION: Step 5 - Invitation List
F2F Invitation List
Good, now that we have all that out of the way, lets invite some friends to join these people once they are registered would become part of your communal library system. Enter ten friend's e-mail addresses below:
Name:
E-mail Address
Trust Level
1 Joe Young J@hotmail.com 1
2 Steven Old olds@yahoo.com 2
3 Andrew Smart smartandrew@you.com 1
4 Gordon Clever cleverGordon@excite.com 1
5 B Gee b.g@music.ons 1
6 Pink Floyd pink@floyd.com 2
7 Gjeremy GJ@wild.net 2
8 Harry Harry@potter.com 4
9 Ice Ice@age.co.uk 1
10 HeMan ManHe@jock.com 3
© F2F Networks Inc 2002
Form USR9

Figure 6

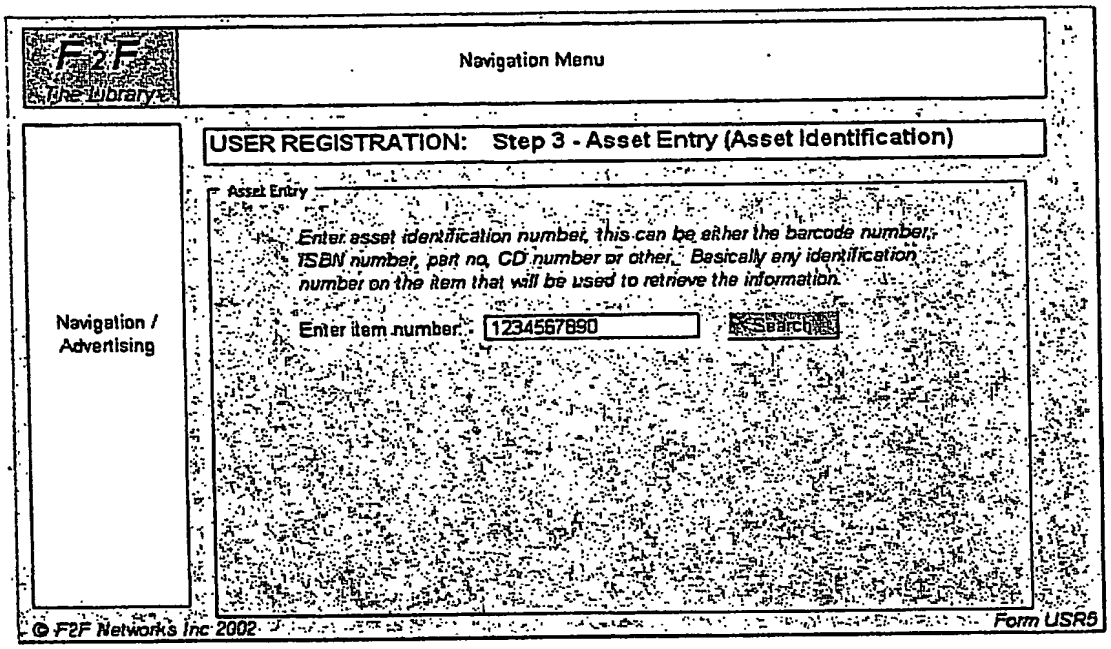

F2F
The Library
Navigation Menu
USER REGISTRATION: Step 3 - Asset Entry (Asset Identification)
Asset Entry
Enter asset identification number, this can be either the barcode number, ISBN number, part no, CD number or other. Basically any identification number on the item that will be used to retrieve the information.
Enter item number:
1234567890
Search
Navigation / Advertising
© F2F Networks Inc 2002
Form USR5

Figure 7

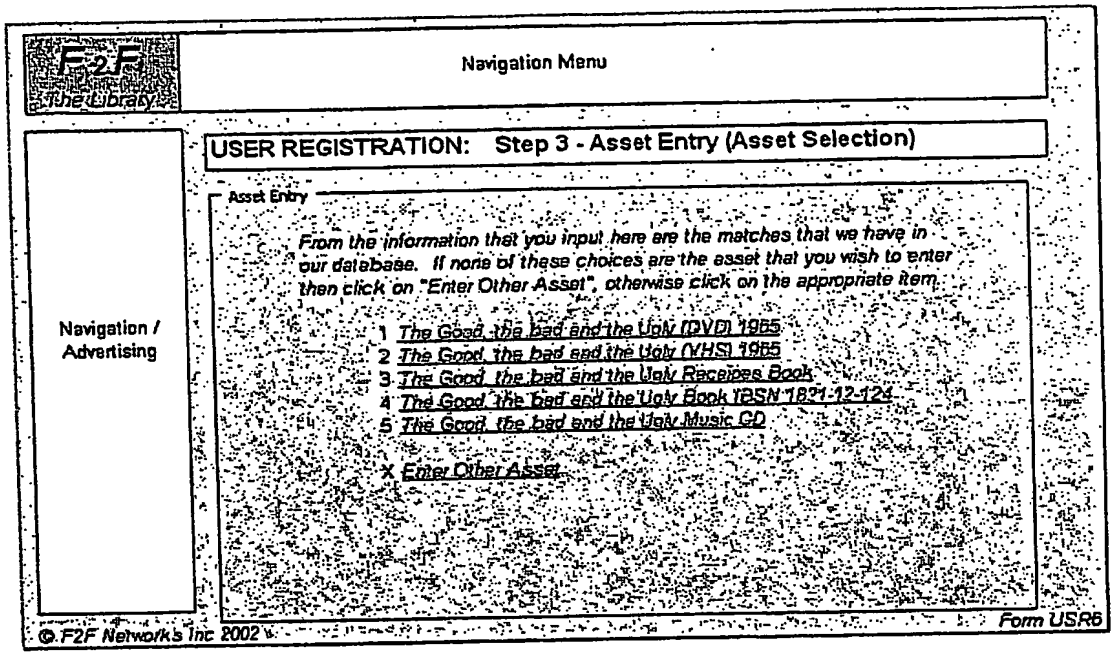

F2F The Library
Navigation Menu
USER REGISTRATION: Step 3 - Asset Entry (Asset Selection)
Asset Entry
From the information that you input here are the matches that we have in our database. If none of these choices are the asset that you wish to enter then click on "Enter Other Asset", otherwise click on the appropriate item.
1 The Good, the bad and the Ugly (DVD) 1965
2 The Good, the bad and the Ugly (VHS) 1965
3 The Good, the bad and the Ugly Receipes Book
4 The Good, the bad and the Ugly Book ISBN 1871-12-124
5 The Good, the bad and the Ugly Music CD
X Enter Other Asset
Navigation / Advertising
© F2F Networks Inc 2002
Form USR6

Figure 8

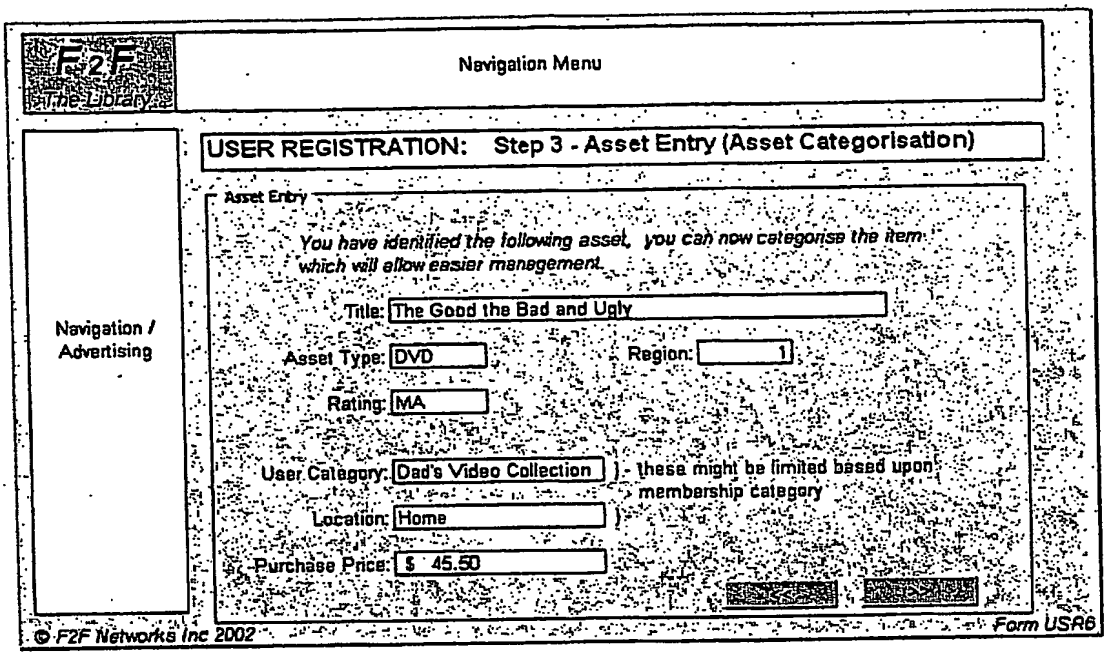

F2F
The Library
Navigation Menu
USER REGISTRATION: Step 3 - Asset Entry (Asset Categorisation)
Navigation / Advertising
Asset Entry
You have identified the following asset, you can now categorise the item which will allow easier management.
Title: The Good the Bad and Ugly
Asset Type: DVD
Region: 1
Rating: MA
User Category: Dad's Video Collection
Location: Home
) - these might be limited based upon membership category
Purchase Price: $ 45.50
© F2F Networks Inc 2002
Form USR6

Figure 9

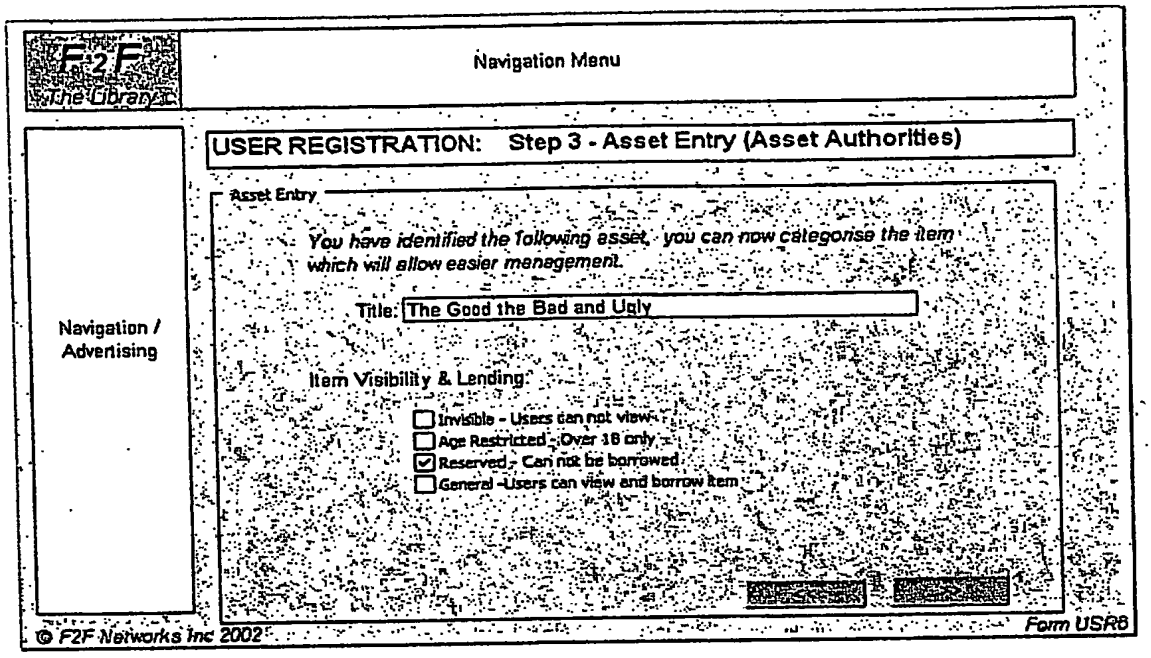

F2F
The Library
Navigation Menu
USER REGISTRATION: Step 3 - Asset Entry (Asset Authorities)
Navigation / Advertising
Asset Entry
You have identified the following asset, you can now categorise the item which will allow easier management.
Title: The Good the Bad and Ugly
Item Visibility & Lending
Invisible - Users can not view
Age Restricted - Over 18 only
Reserved - Can not be borrowed
General -Users can view and borrow item
© F2F Networks Inc 2002
Form USR6

Figure 10

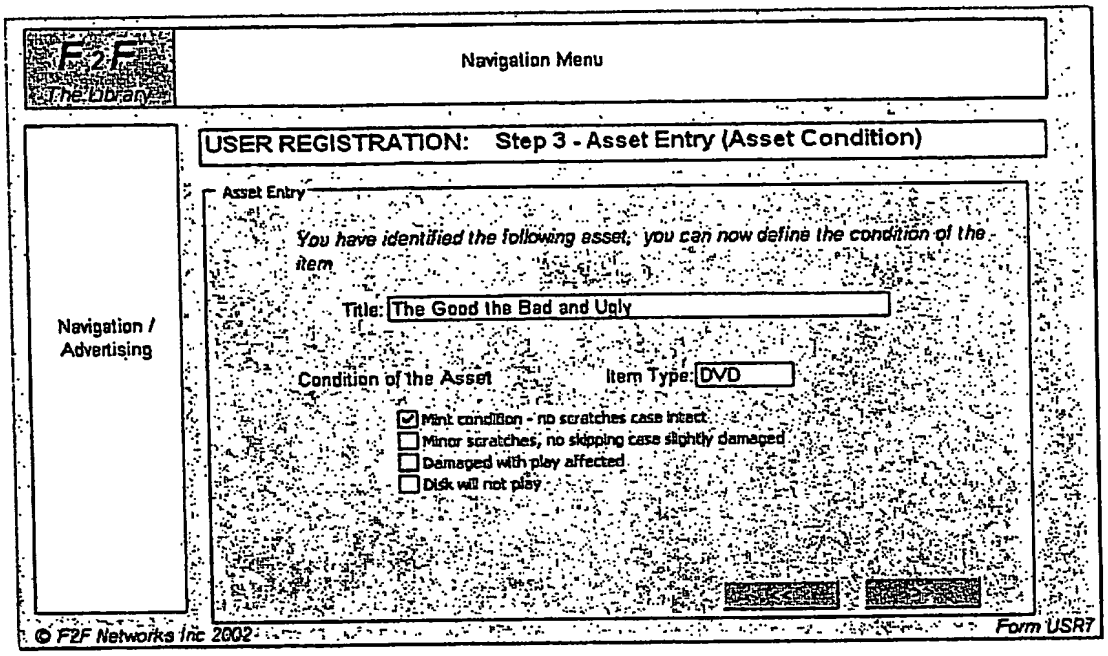

F2F The Library
Navigation Menu
USER REGISTRATION: Step 3 - Asset Entry (Asset Condition)
Navigation / Advertising
Asset Entry
You have identified the following asset, you can now define the condition of the item
Title: The Good the Bad and Ugly
Condition of the Asset
Item Type: DVD
Mint condition - no scratches case intact
Minor scratches, no skipping case slightly damaged
Damaged with play affected
Disk will not play
© F2F Networks Inc 2002
Form USR7

Figure 11

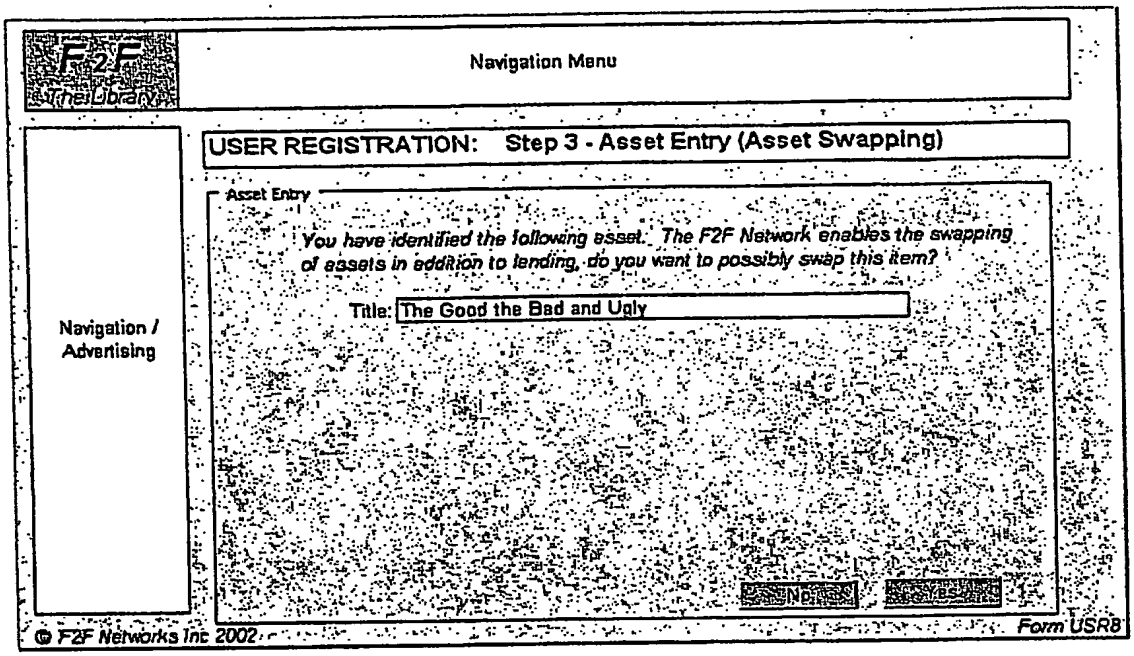

F2F
The Library
Navigation Menu
USER REGISTRATION: Step 3 - Asset Entry (Asset Swapping)
Navigation / Advertising
Asset Entry
You have identified the following asset. The F2F Network enables the swapping of assets in addition to lending, do you want to possibly swap this item?
Title: The Good the Bad and Ugly
NO
© F2F Networks Inc 2002
Form USR8

Figure 12

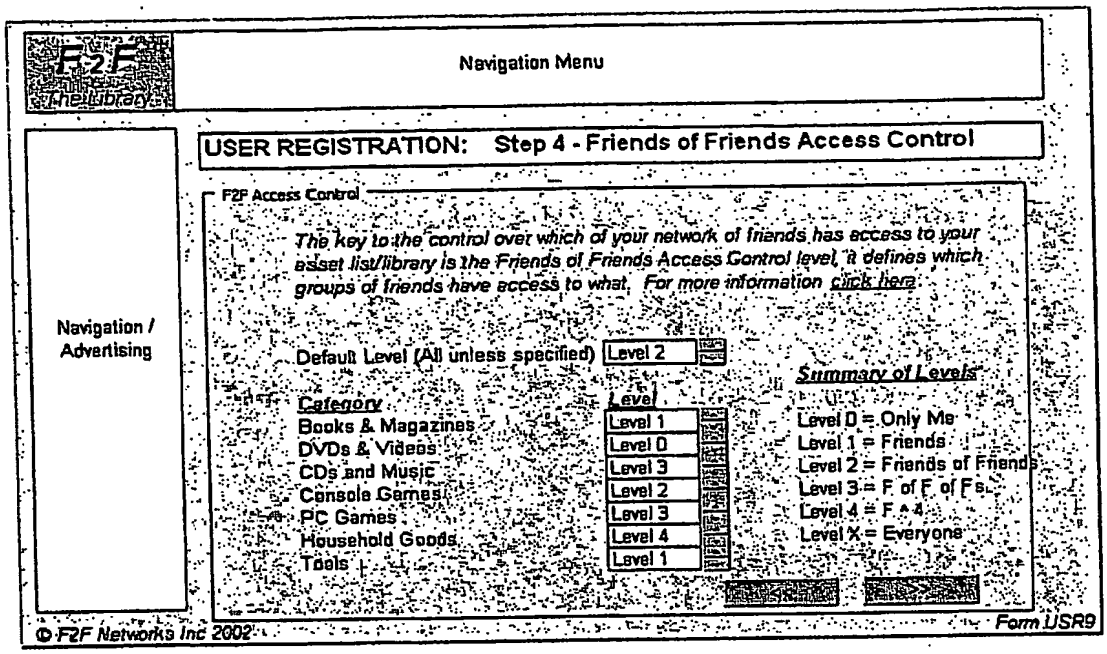

F2F the library
Navigation Menu
Navigation / Advertising
USER REGISTRATION: Step 4 - Friends of Friends Access Control
F2F Access Control
The key to the control over which of your network of friends has access to your asset list/library is the Friends of Friends Access Control level, it defines which groups of friends have access to what. For more information click here
Default Level (All unless specified) Level 2
Category
Level
Books & Magazines Level 1
DVDs & Videos Level 0
CDs and Music Level 3
Console Games Level 2
PC Games Level 3
Household Goods Level 4
Tools Level 1
Summary of Levels
Level 0 = Only Me
Level 1 = Friends
Level 2 = Friends of Friends
Level 3 = F. of F. of Fs.
Level 4 = F.^4
Level X = Everyone
© F2F Networks Inc 2002
Form USR9

Figure 13

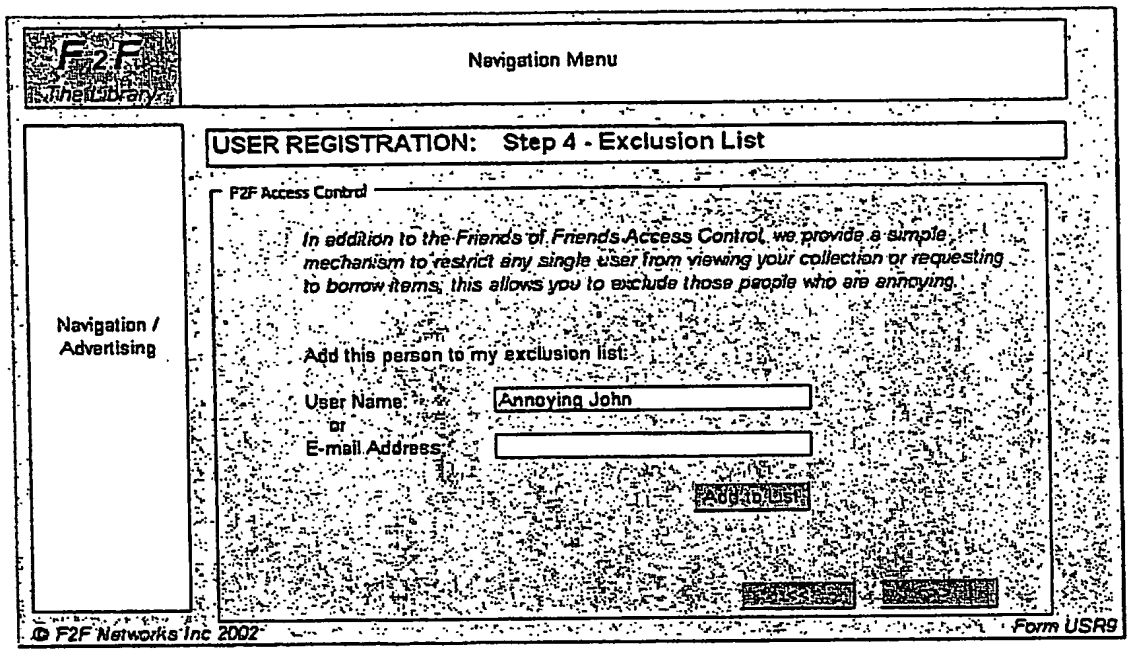

F2F
The Library
Navigation Menu
USER REGISTRATION: Step 4 - Exclusion List
Navigation / Advertising
F2F Access Control
In addition to the Friends of Friends Access Control, we provide a simple mechanism to restrict any single user from viewing your collection or requesting to borrow items, this allows you to exclude those people who are annoying.
Add this person to my exclusion list:
User Name:
Annoying John
or
E-mail Address:
Add to List
© F2F Networks Inc 2002
Form USR9

Figure 14

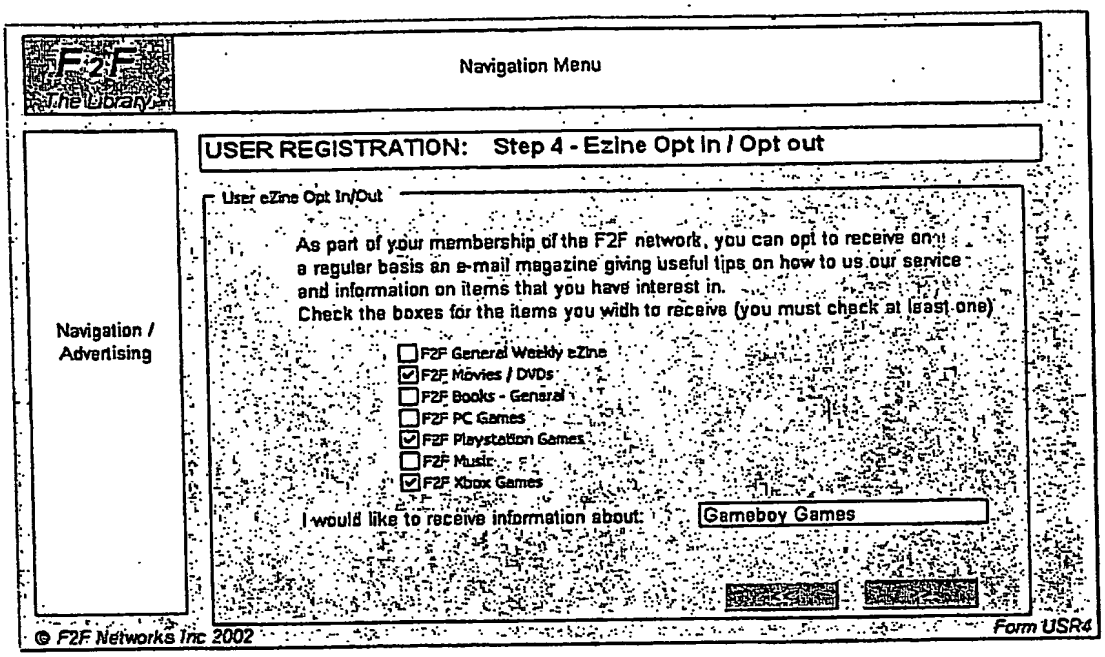

F2F
The Library
Navigation Menu
Navigation / Advertising
USER REGISTRATION: Step 4 - Ezine Opt in / Opt out
User eZine Opt In/Out
As part of your membership of the F2F network, you can opt to receive on a regular basis an e-mail magazine giving useful tips on how to us our service and information on items that you have interest in.
Check the boxes for the items you widh to receive (you must check at least one)
F2F General Weekly eZine
F2F Movies / DVDs
F2F Books - General
F2F PC Games
F2F Playstation Games
F2F Music
F2F Xbox Games
I would like to receive information about:
Gameboy Games
© F2F Networks Inc 2002
Form USR4

Figure 15

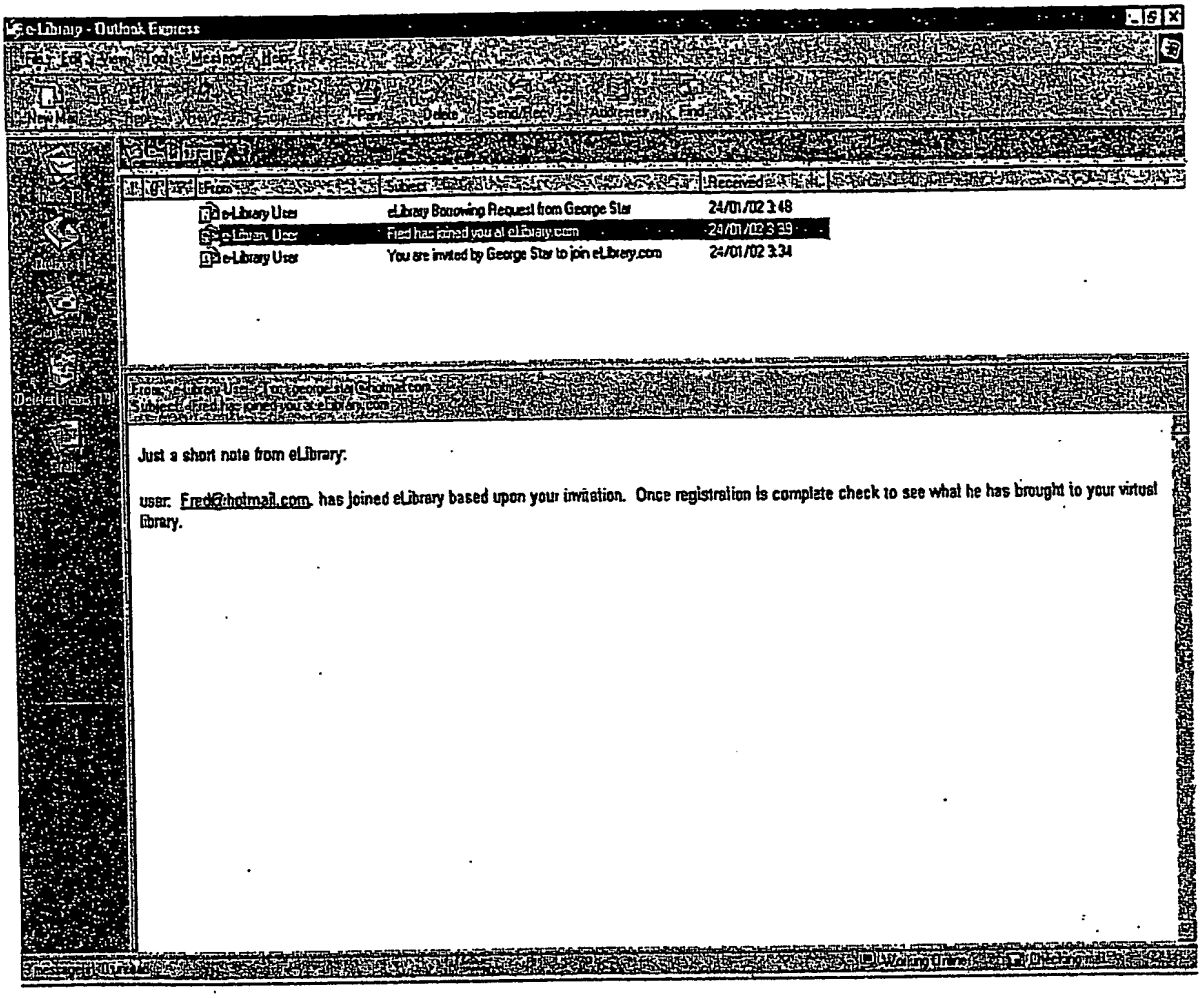

e-Library - Outlook Express
From
Subject
Received
e-Library User
eLibrary Borrowing Request from George Star
24/01/02 3:48
e-Library User
Fred has joined you at eLibrary.com
24/01/02 3:39
e-Library User
You are invited by George Star to join eLibrary.com
24/01/02 3:34
Just a short note from eLibrary:
user: Fred@hotmail.com, has joined eLibrary based upon your invitation. Once registration is complete check to see what he has brought to your virtual library.

Figure 16

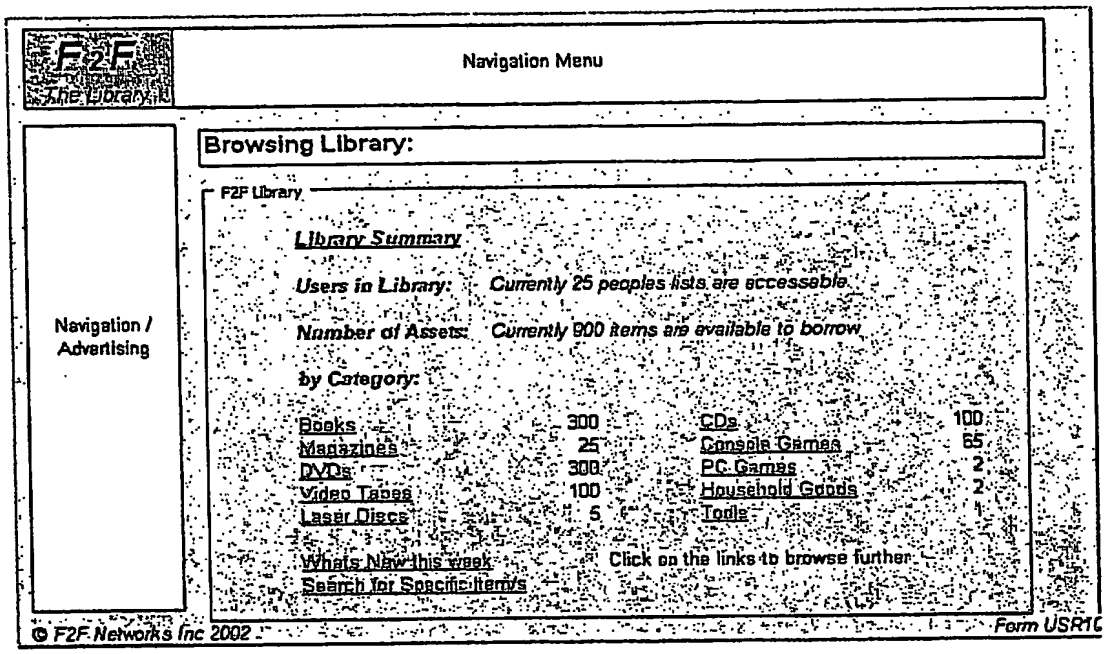

F2F
The Library
Navigation Menu
Navigation / Advertising
Browsing Library:
F2F Library
Library Summary
Users in Library: Currently 25 peoples lists are accessable
Number of Assets: Currently 900 items are available to borrow
by Category:
Books 300
Magazines 25
DVDs 300
Video Tapes 100
Laser Discs 5
CDs 100
Console Games 65
PC Games 2
Household Goods 2
Tools 1
What's New this week
Search for Specific Item/s
Click on the links to browse further
© F2F Networks Inc 2002
Form USR1C

Figure 17

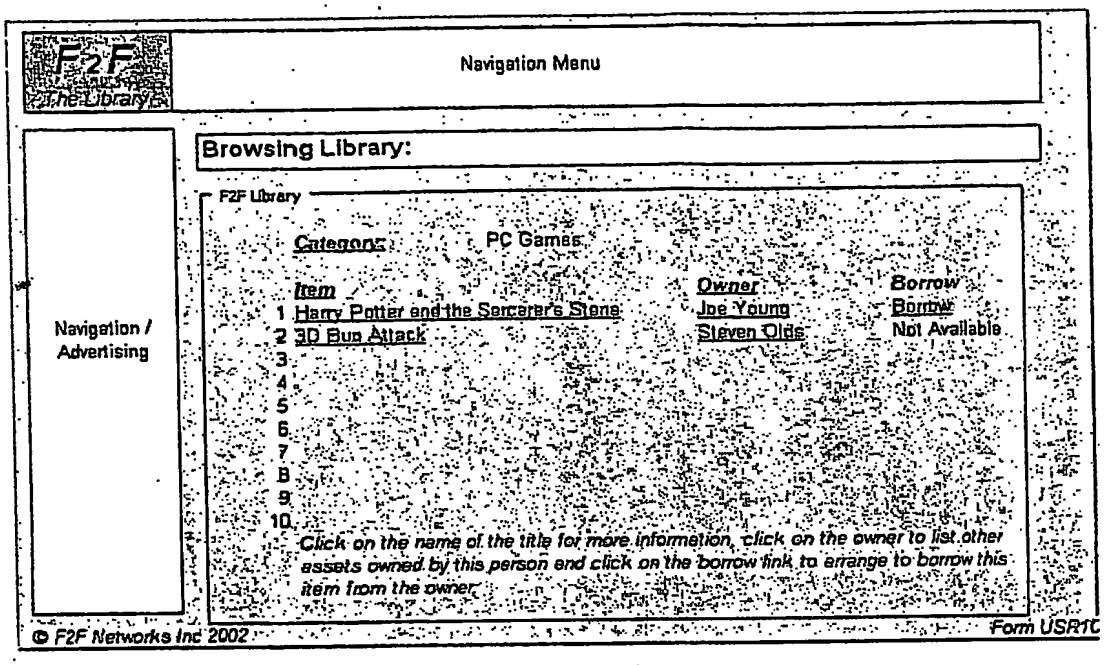

F2F
The Library
Navigation Menu
Navigation / Advertising
Browsing Library:
F2F Library
Category: PC Games
Item
1 Harry Potter and the Sorcerer's Stone
2 3D Bug Attack
3
4
5
6
7
8
9
10
Owner
Joe Young
Steven Olds
Borrow
Borrow
Not Available
Click on the name of the title for more information, click on the owner to list other assets owned by this person and click on the borrow link to arrange to borrow this item from the owner.
© F2F Networks Inc 2002
Form USR1C

Figure 18

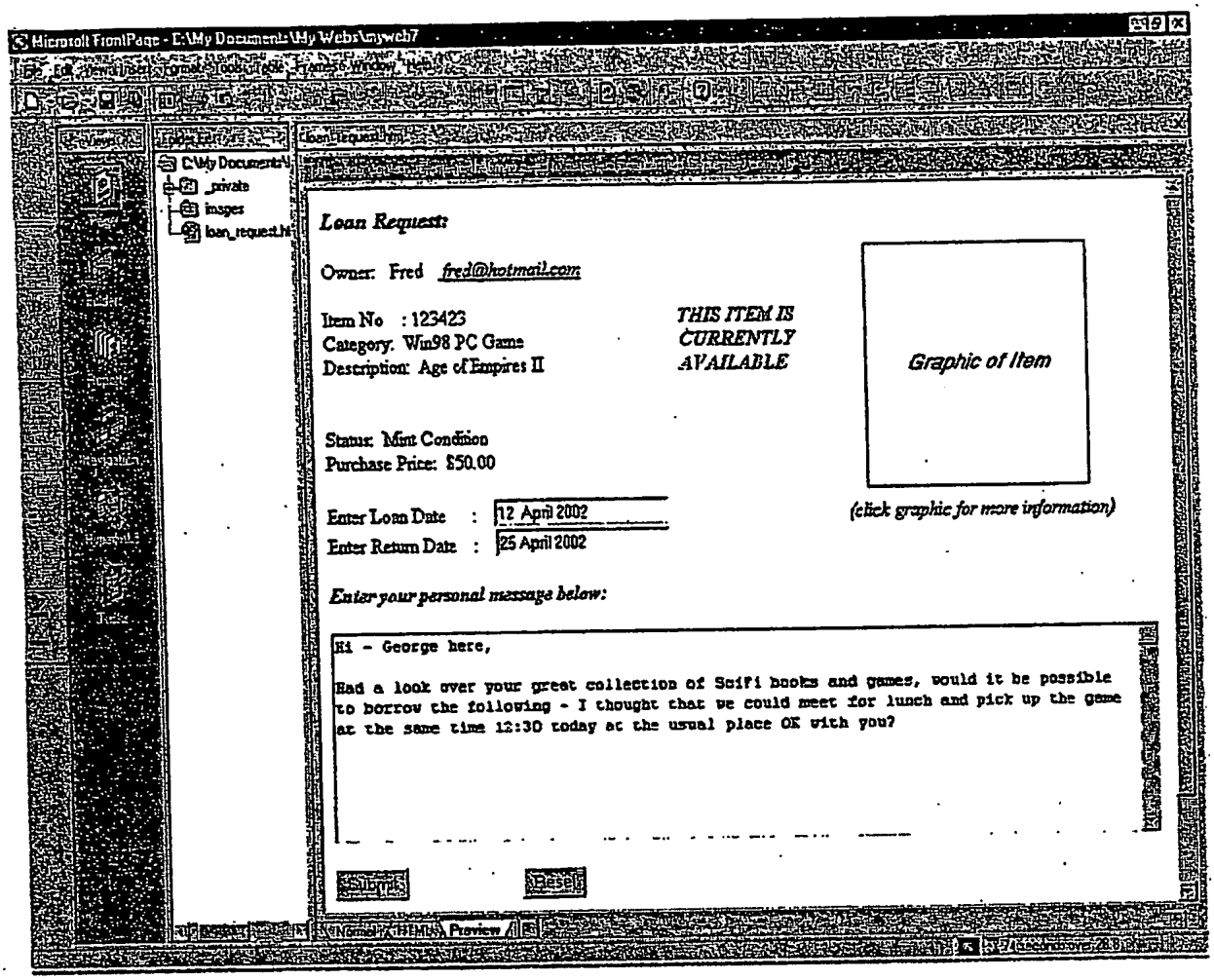

Loan Request:
Owner: Fred fred@hotmail.com
Item No : 123423
Category: Win98 PC Game
Description: Age of Empires II
THIS ITEM IS CURRENTLY AVAILABLE
Graphic of Item
Status: Mint Condition
Purchase Price: $50.00
Enter Loan Date : 12 April 2002
Enter Return Date : 25 April 2002
(click graphic for more information)
Enter your personal message below:
Hi - George here,
Had a look over your great collection of Scifi books and games, would it be possible to borrow the following - I thought that we could meet for lunch and pick up the game at the same time 12:30 today at the usual place OK with you?
Submit
Reset

Figure 19

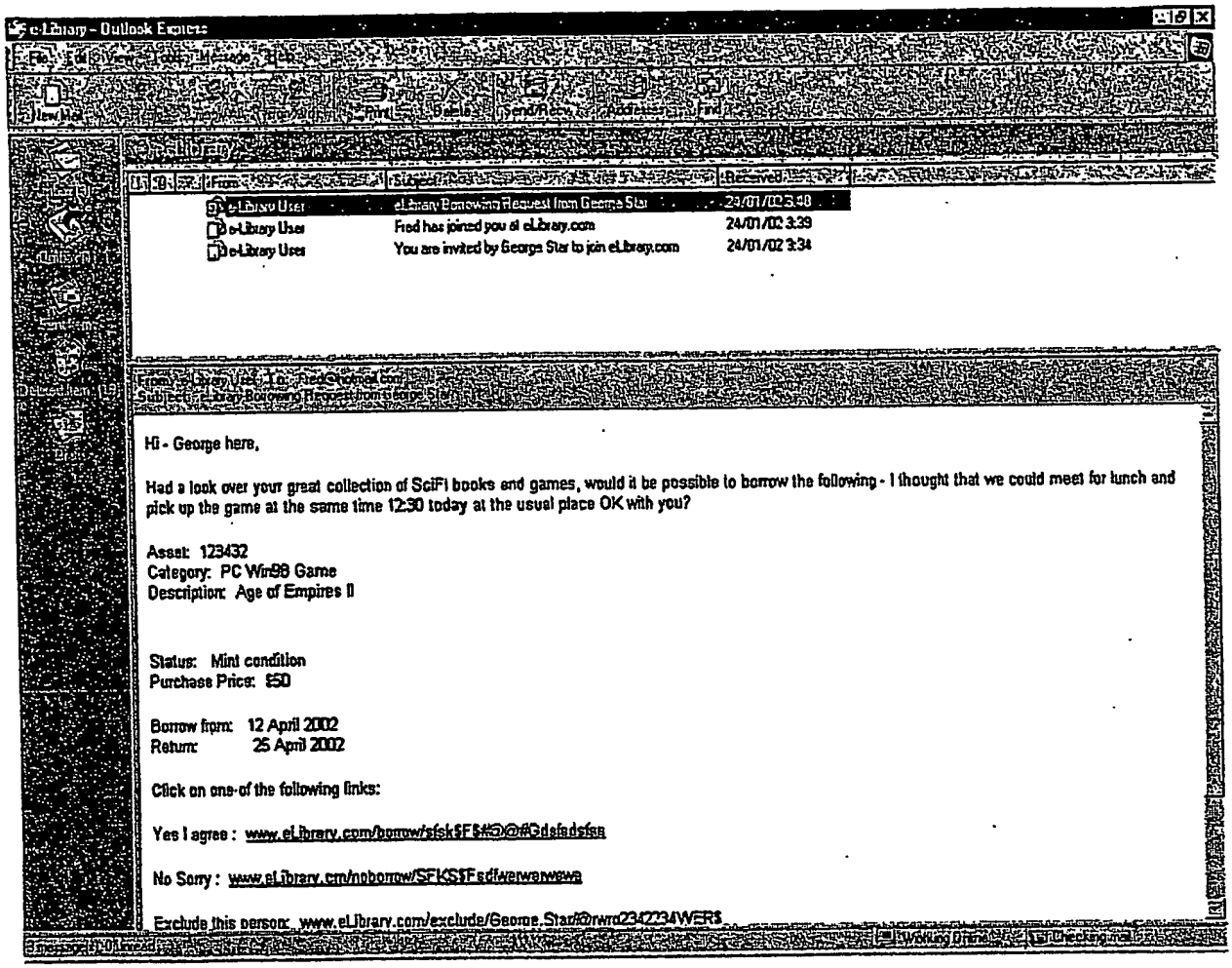

e-Library - Outlook Express
e-Library User
eLibrary Borrowing Request from George Star
24/01/02 3:40
e-Library User
Fred has joined you at eLibrary.com
24/01/02 3:39
e-Library User
You are invited by George Star to join eLibrary.com
24/01/02 3:34
Hi - George here,
Had a look over your great collection of SciFi books and games, would it be possible to borrow the following - I thought that we could meet for lunch and pick up the game at the same time 12:30 today at the usual place OK with you?
Asset: 123432
Category: PC Win98 Game
Description: Age of Empires II
Status: Mint condition
Purchase Price: $50
Borrow from: 12 April 2002
Return: 25 April 2002
Click on one of the following links:
Yes I agree : www.eLibrary.com/borrow/sfsk$F$#@@#@dsfadsfsa
No Sorry : www.eLibrary.cm/noborrow/SFKS$Fsdfwerwerwewa
Exclude this person: www.eLibrary.com/exclude/George.Star@rwro2342234WER$

Figure 20

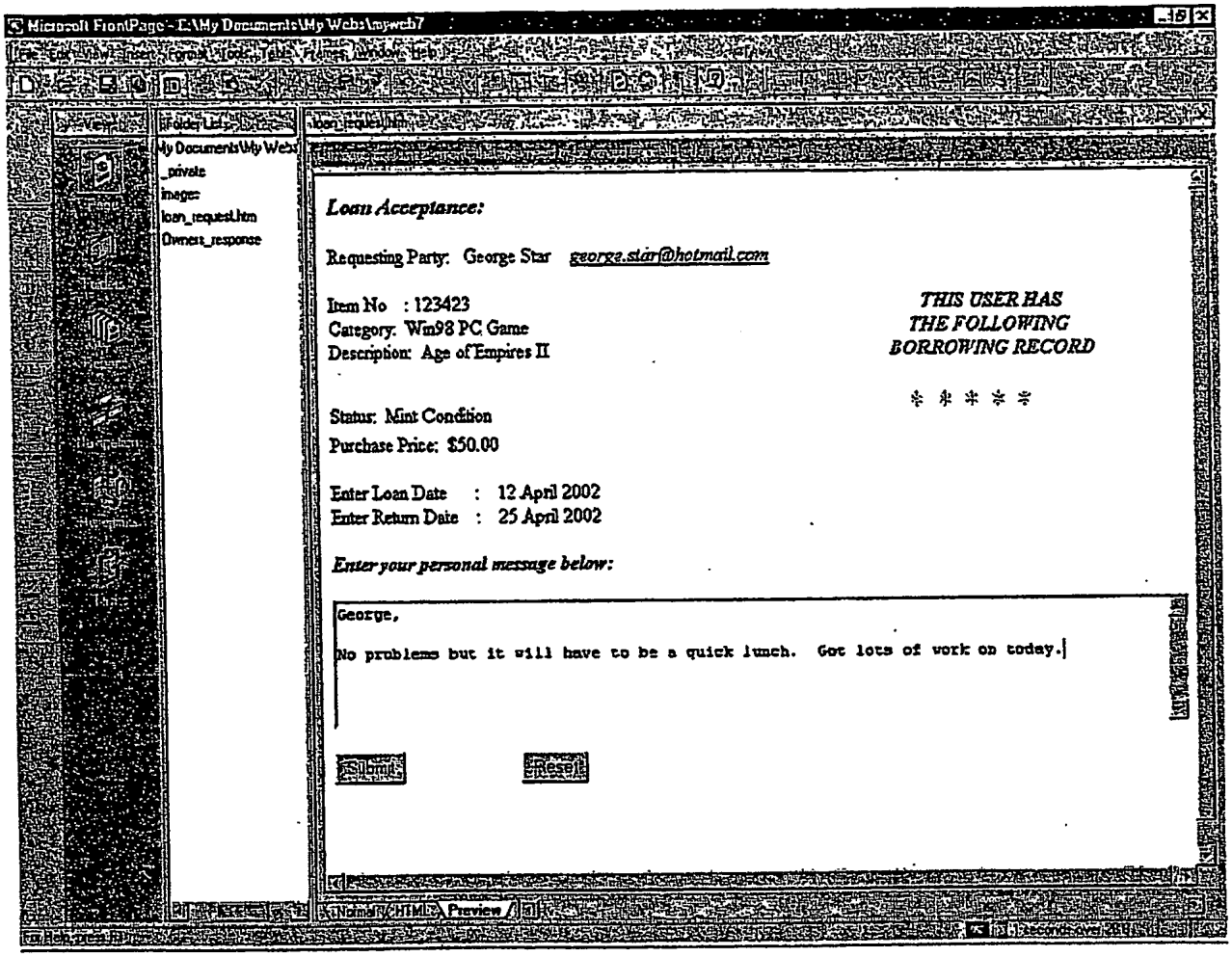

Microsoft FrontPage - E:\My Documents\My Webs\myweb7
Folder List
My Documents\My Webs
_private
images
loan_request.htm
Owners_response
loan_request.htm
Loan Acceptance:
Requesting Party: George Star george.star@hotmail.com
Item No : 123423
Category: Wm98 PC Game
Description: Age of Empires II
THIS USER HAS
THE FOLLOWING
BORROWING RECORD
* * * * *
Status: Mint Condition
Purchase Price: $50.00
Enter Loan Date : 12 April 2002
Enter Return Date : 25 April 2002
Enter your personal message below:
George,
No problems but it will have to be a quick lunch. Got lots of work on today.
Submit
Reset
Normal
HTML
Preview

Figure 21

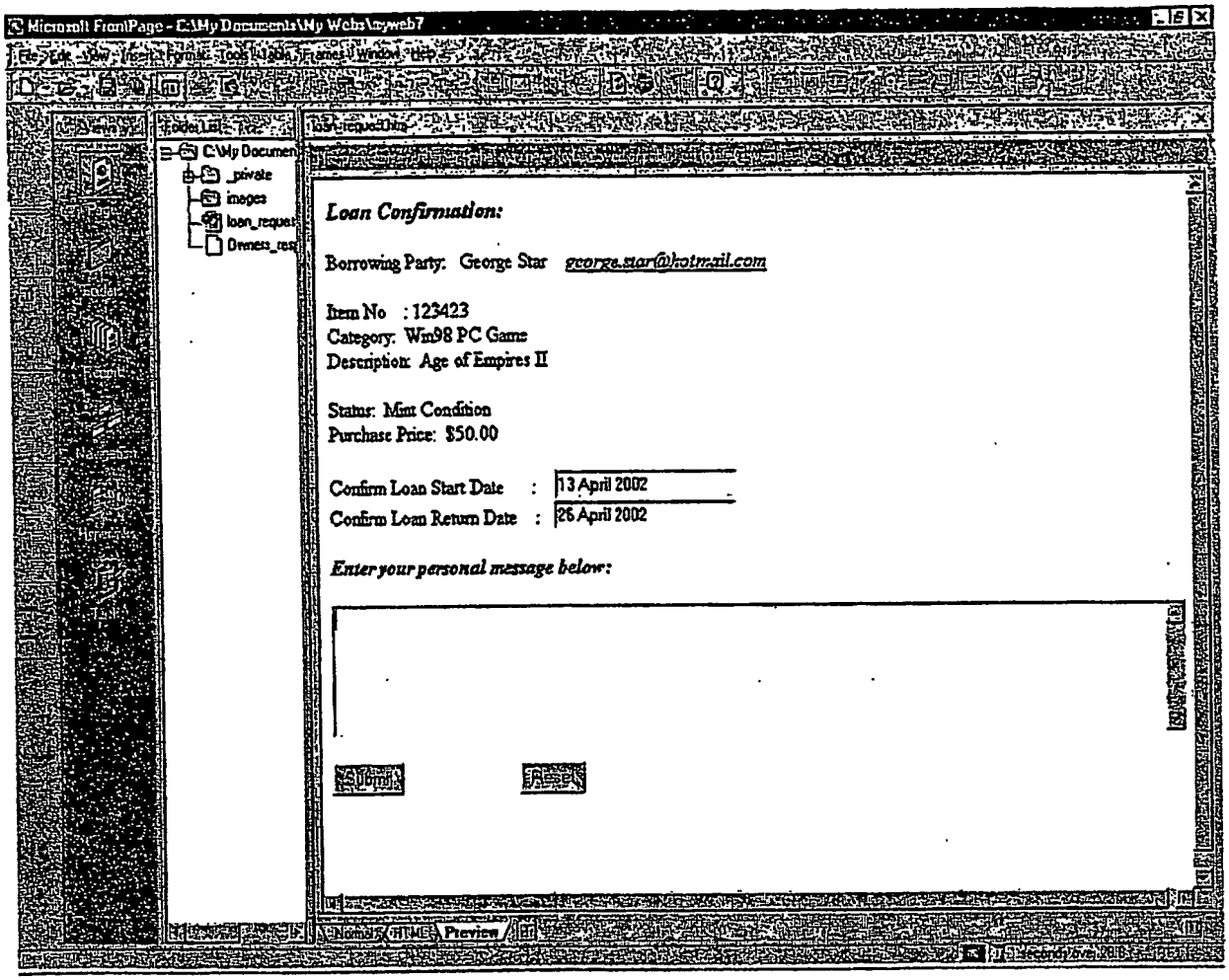

Microsoft FrontPage - C:\My Documents\My Webs\myweb7
C:\My Documen
_private
images
loan_reques
Dreness_res
loan_requesting
Loan Confirmation:
Borrowing Party: George Star george.star@hotmail.com
Item No : 123423
Category: Win98 PC Game
Description: Age of Empires II
Status: Mint Condition
Purchase Price: $50.00
Confirm Loan Start Date : 13 April 2002
Confirm Loan Return Date : 26 April 2002
Enter your personal message below:
Submit
Reset
Normal
HTML
Preview

Figure 22

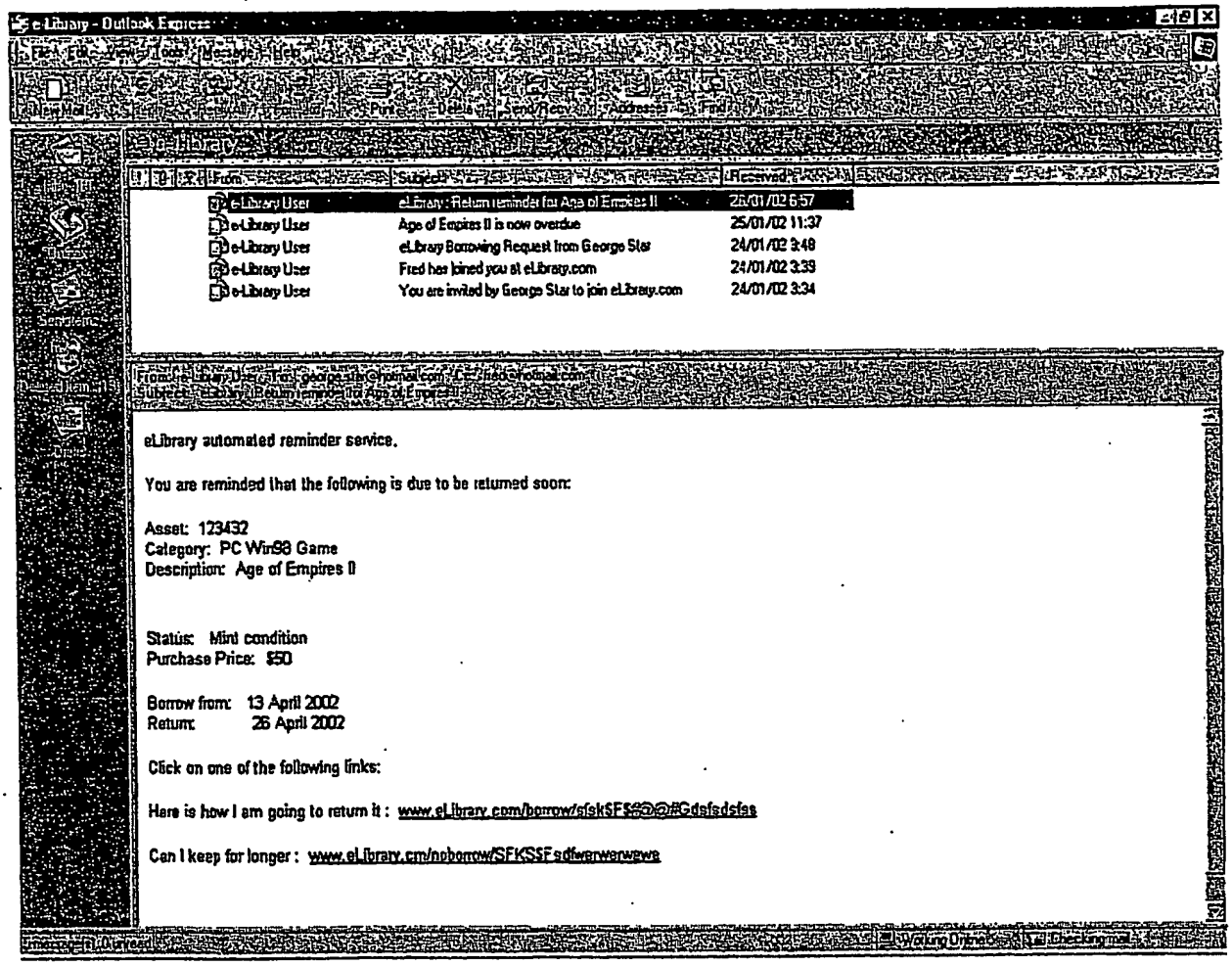
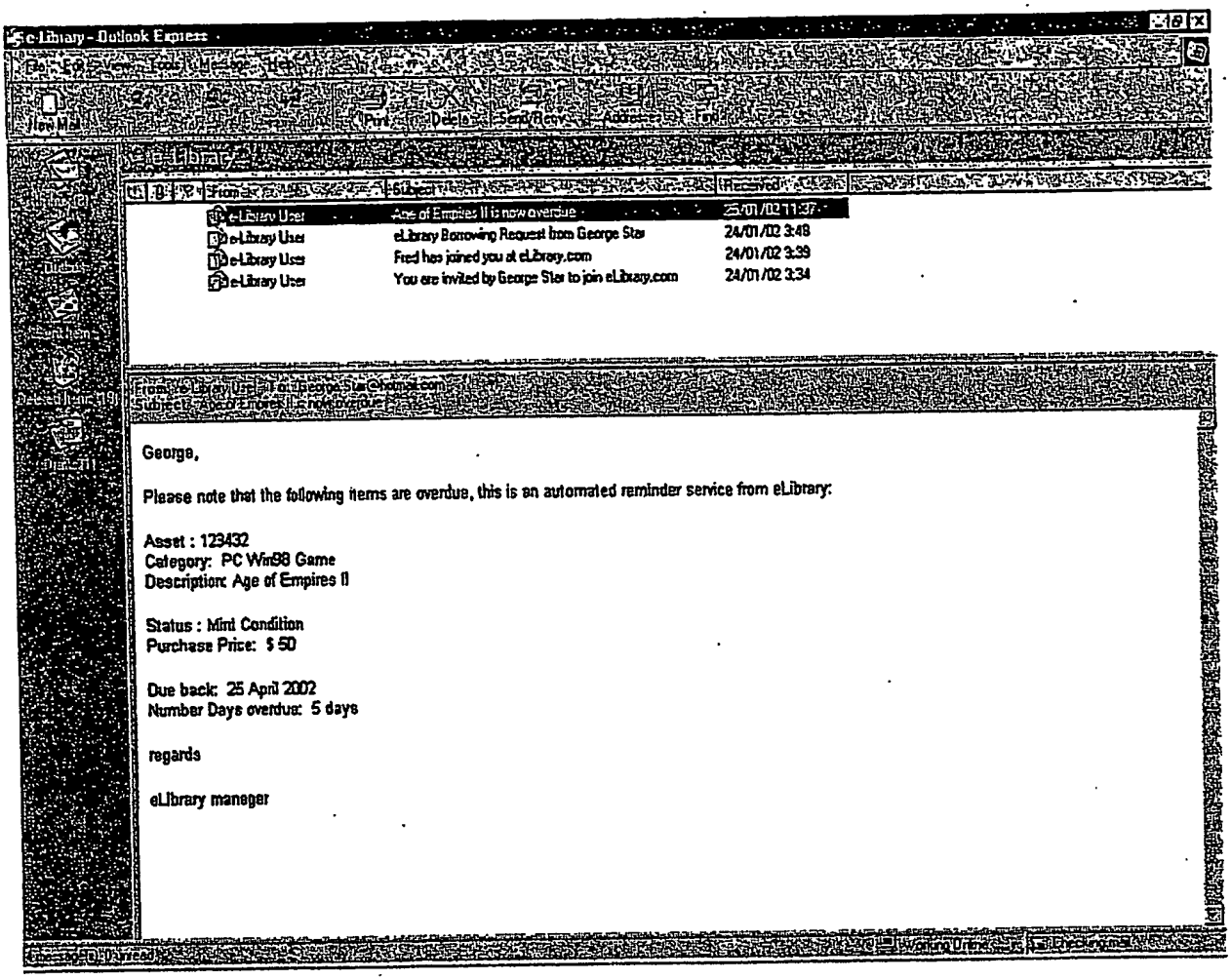
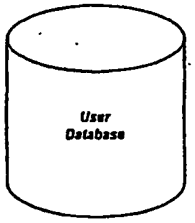

eLibrary - Outlook Express
eLibrary
From
Subject
Received
e-Library User
eLibrary : Return reminder for Age of Empires II
26/01/02 6:57
e-Library User
Age of Empires II is now overdue
25/01/02 11:37
e-Library User
eLibrary Borrowing Request from George Star
24/01/02 3:48
e-Library User
Fred has joined you at eLibrary.com
24/01/02 3:39
e-Library User
You are invited by George Star to join eLibrary.com
24/01/02 3:34
eLibrary automated reminder service.
You are reminded that the following is due to be returned soon:
Asset: 123432
Category: PC Win98 Game
Description: Age of Empires II
Status: Mint condition
Purchase Price: $50
Borrow from: 13 April 2002
Return: 26 April 2002
Click on one of the following links:
Here is how I am going to return it : www.eLibrary.com/borrow/sfsk$FS@@@#Gdsfsdsfss
Can I keep for longer : www.eLibrary.cm/noborrow/SFKSSFsdfwerwerwewe

Figure 23


e-Library - Outlook Express
e-Library User
Age of Empires II is now overdue
25/01/02 11:37
e-Library User
eLibrary Borrowing Request from George Star
24/01/02 3:48
e-Library User
Fred has joined you at eLibrary.com
24/01/02 3:39
e-Library User
You are invited by George Star to join eLibrary.com
24/01/02 3:34
George,
Please note that the following items are overdue, this is an automated reminder service from eLibrary:
Asset : 123432
Category: PC Win98 Game
Description: Age of Empires II
Status : Mint Condition
Purchase Price: $ 50
Due back: 25 April 2002
Number Days overdue: 5 days
regards
eLibrary manager

DATABASE STRUCTURES FOR THE FRIENDS OF FRIENDS LIBRARY



UserID	UserName	User Details	Password

Primary source of User information

AssetID	OwnerID	Category	Item No	Asset Authority	Damage Status

ie. Invisible, Restricted, Reserved, General

Key Asset list by Owner with categorisation etc.

UserID	FriendID	TrustLevel

Sorted by UserID

A list of links between users defining immediate links of a single user to others and the level of Trust applied

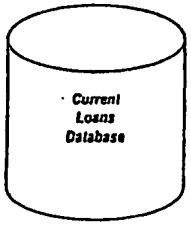
UserID	ExcludedUserID

List of users excluded from access by an individual user to their asset list

Item No	Item Details

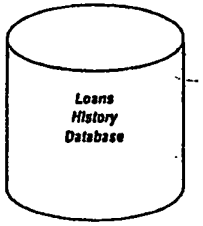
Growing pre-set list of items used to assist in the entry of assets

FIG. 24



AssetID	OwnerID	BorrowerID	Due Date

A list of the assets on loan at the current time which enables return warnings and over due notice generation



AssetID	OwnerID	BorrowerID	ReturnDate	DamageIncurred	Other

History of loans and the outcomes, eg. On time return or late, damage incurred etc.

Item No	UserID

DYNAMIC LIBRARY LIST GENERATION

At each entry to browse library a new dynamic list is generated. Below is a psudo-algorithm of its creation

DEFINITIONS:

User = the person initiating the search or browsing of the Friends of Friends library

Owner/s = are the individuals and groups who are not the user who will have assets listed in the search

UserID = the UserID of the User allocated at registration

ALGORITHM

FUNCTION Create Library List (UserID)

IF UserID is not logged on END FUNCTION

DO FUNCTION Generate List of Authorised OwnerIDs by Asset Category (UserID)

DO FUNCTION Generate Library List (List of Authorised OwnerIDs)

END FUNCTION RETURN Library List

FUNCTION Generate Library List (List of Authorised OwnerIDs)
{ Populate network list with assets to search }

DEFINE LIST Library List CONTINING FIELDS

Fig 25a

Asset Category	From Predefined List
AssetID	
ItemID	
OwnerID	

Can Be Borrowed Boolean

FOR each system defined Asset Cateogry DO

FOR each OwnerID in the List of Authorised OwnerIDs DO

FOR each Asset Record in the Asset Database with [Asset Database]UserID = OwnerID DO
{ *For every asset owned by that OwnerID* }

IF Asset Authority = NOT "Invisible" AND

IF Asset Authority = "Age Restricted" and User is NOT a Minor

THEN

ADD Asset Category, AssetID, ItemID,OwnerID to Library List as a New Record

IF Asset Authority = NOT "Reserved" THEN Can Be Borrowed = TRUE
ELSE Can Be Borrowed = FALSE

ELSE DO NOTHING

DO LOOP

DO LOOP

DO LOOP

{ *Full Library List has now been generated* }

END OF FUNCTION RETURN Library List

Fig. 25b

Potential Network List Algorithm

FUNCTION Generate List of Authorised OwnerIDs by Asset Category (UserID)

(Creates a list of Owners that the User who has Authority to search those owner's asset lists by Asset Category)

DO FUNCTION Generate Potential Network List (UserID)

SORT Potential Network List AND REMOVE DUPLICATES BY OwnerID LEAVING record with the lowest Distance .

DEFINE LIST List of Authorised OwnerIDs CONTAINING FIELDS

Asset Category
OwnerID

FOR each system defined Asset Category DO

DO FUNCTION Create List of Authorised OwnerIDs (Asset Category, Potential Network List,UserID)

DO LOOP

END FUNCTION RETURN List of Authorised OwnerIDs

FUNCTION Generate Potential Network List (SearchingUserID)

(Searches the Relationship Database and creates the initial network of friends before access controls used)

DEFINE LIST Potential Network List CONTAINING FIELDS

OwnerID
Distance from User

FIG 26

DO FUNCTION Recursively Check Owner (SearchingUserID, 0)

END FUNCTION RETURN Potential Network List

FUNCTION Recursively Check Owner (UserID, Distance)

(SUB FUNCTION THAT DOES RECURSIVE TREE CREATION)*

LET Max Distance = the system defined maximum distance of search for friends of friends links

(This would be system defined integer so that when there are many relationships it does not take forever to do each tree. Expect that this variable would be set to 10 or less.)

ADD Record to Potential Network List WITH

OwnerID = User ID
Distance from User = Distance

IF Distance < Max Distance THEN

FOR each Record in the Relationship Database with [Relationship Database]FriendID = UserID DO

UserID = [Relationship Database]UserID
UserDistance = Distance + [Relationship Database]Trust Level

DO FUNCTION Recursively Check Owner (UserID, UserDistance)

DO LOOP

END FUNCTION

Note: * *Recursion or Recursive functions are functions whose results depend upon execution of the function itself. and are often used in defining tree structures or performing sorting routines.*

FUNCTION Create List of Authorised OwnerIDs (Asset Category, Potential Network List, UserID)

(Creates takes those Owners from the Potential Network who authorise the user to have access to their asset list by Asset category and addes then to the List of Authorised OwnerIDs)

FOR each OwnerID in the Potential Network List DO

IF the Owner has the UserID on their exclusion list THEN DO NOTHING

ELSE IF Distance <= the Owners Trust Level as defined in the Access Control Database THEN

ADD RECORD to List of Authorised OwnerIDs WITH
OwnerID = OwnerID and Asset Category = Asset Category

DO LOOP

END FUNCTION RETURN List of Authorised OwnerIDs

Online registration (Personal Details)

Www.elibrary.com/newuser/invite/GeorStar/123123423/newreg/.html

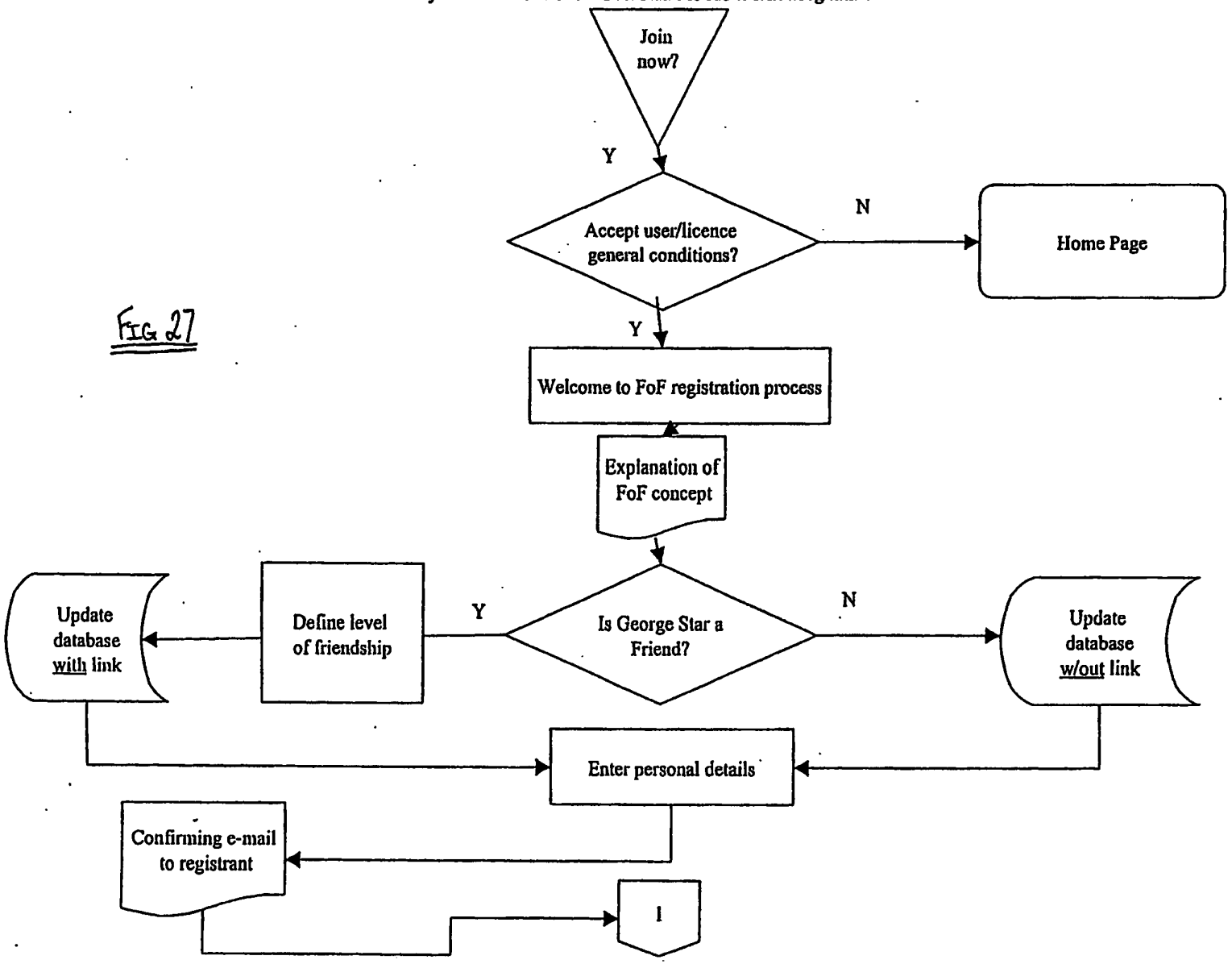


FIG 27

Steps 1-2

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Invitation to friends

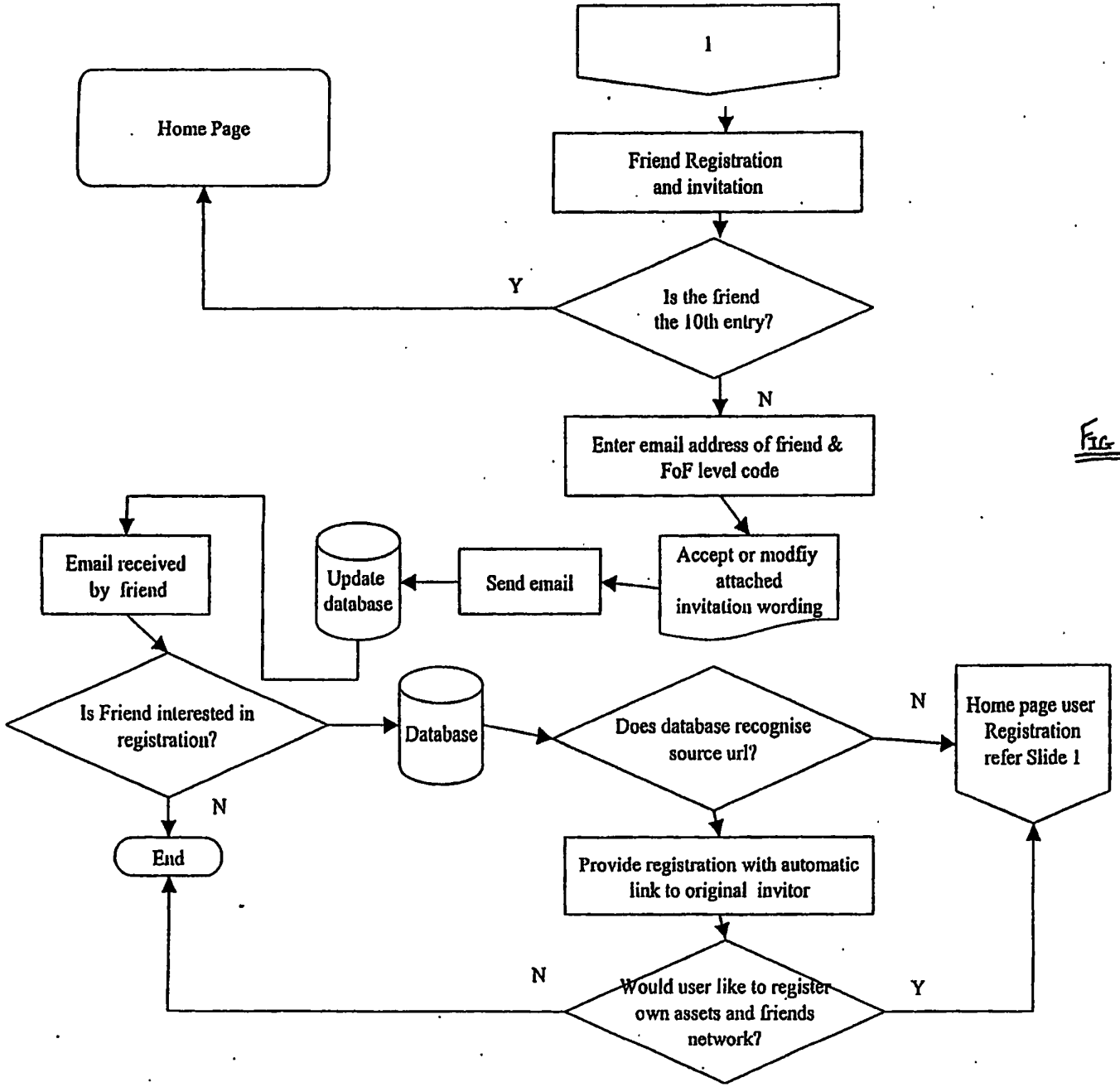

FIG 28

Step 3

Online Registration (Asset Details)

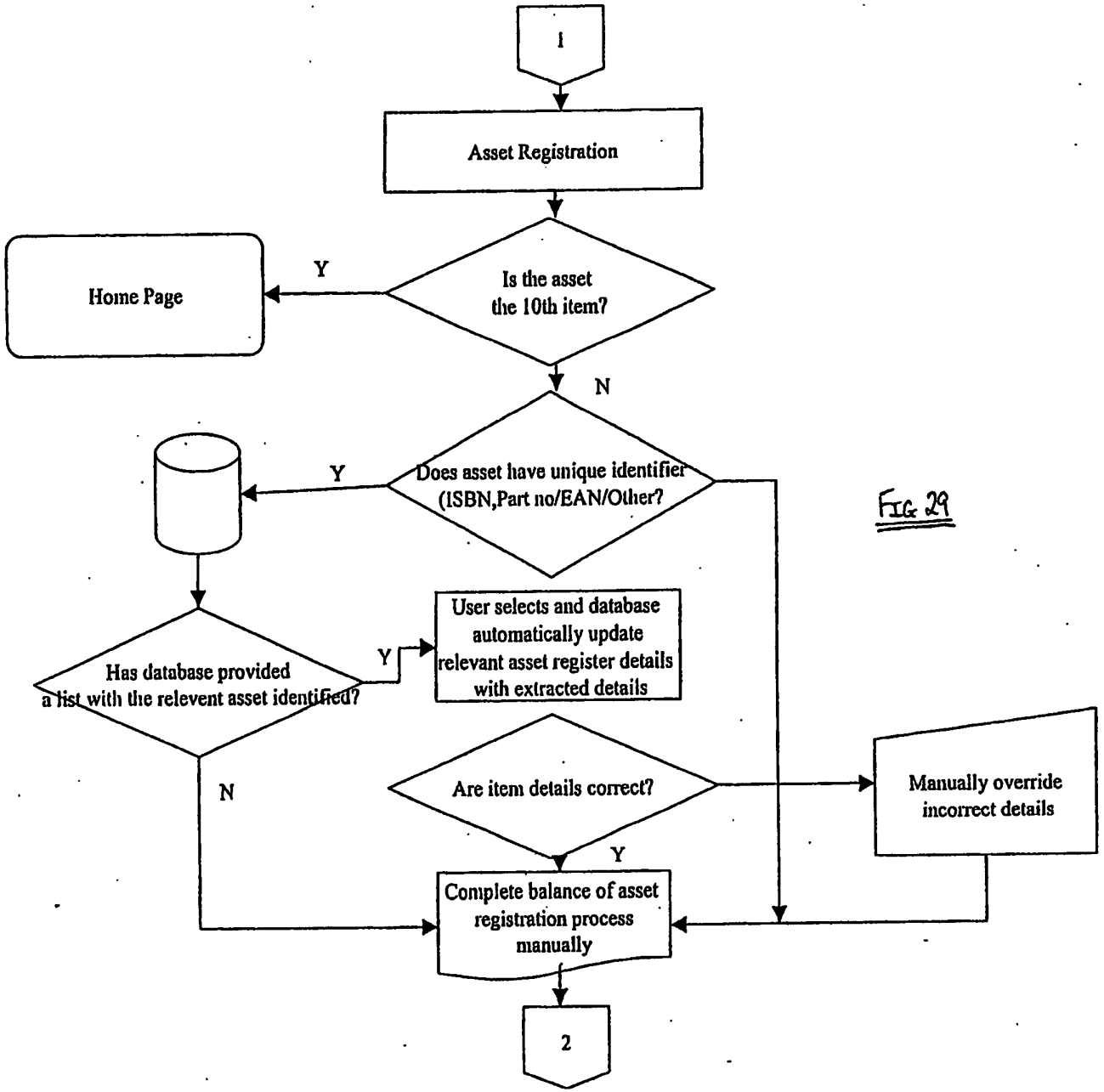

FIG 29

Step 3

Online Registration (Asset lending categorisation details)

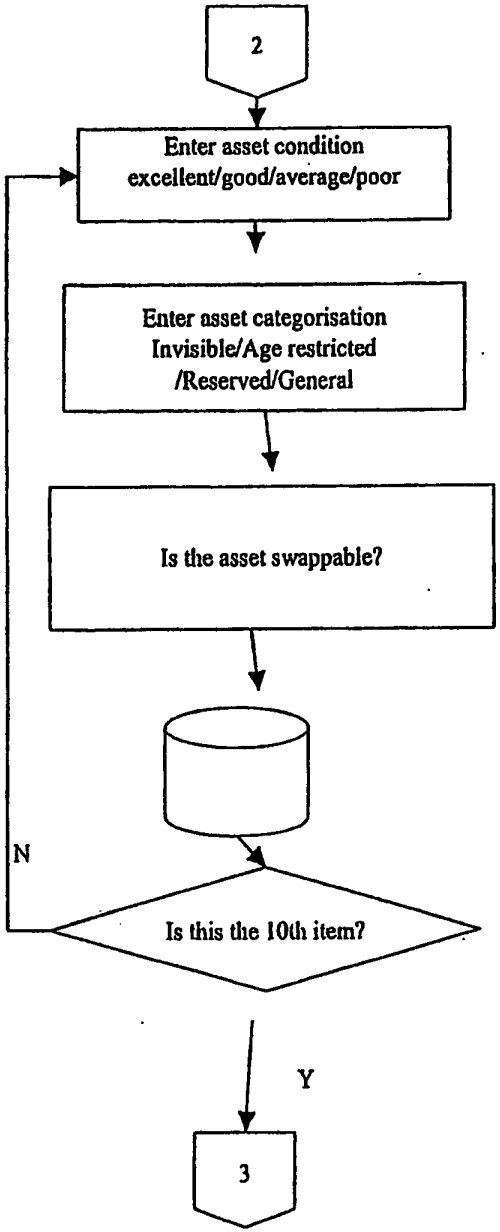

FIG 30

Step 3

Online Registration (Lending policies- FoF access control)

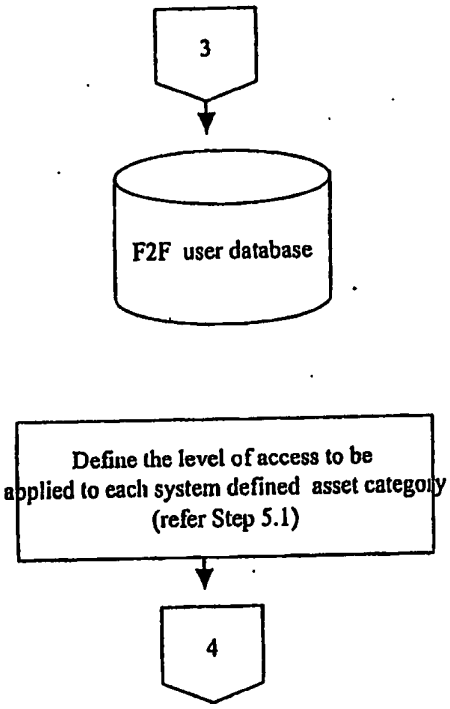

FIG 31

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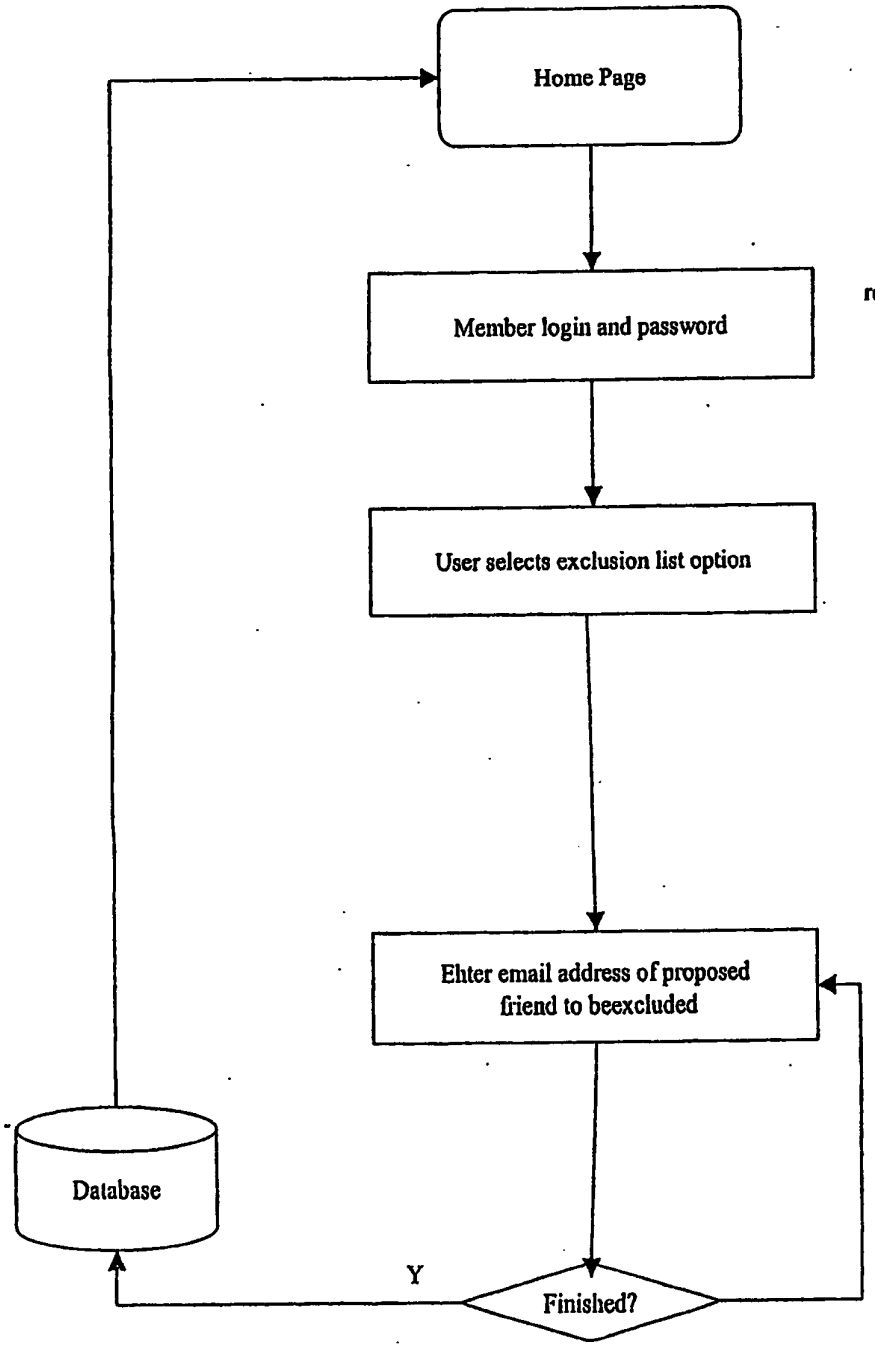
If it is likely that users will only use level 1?

Step 4

Exclusion list on FC (in a post registration or as part of normal login)



For one reason or another an asset owner may choose to restrict access to particular asset groups to particular friends and their friends. This functionality offers an opportunity to provide this service

Fig 32

Step 3

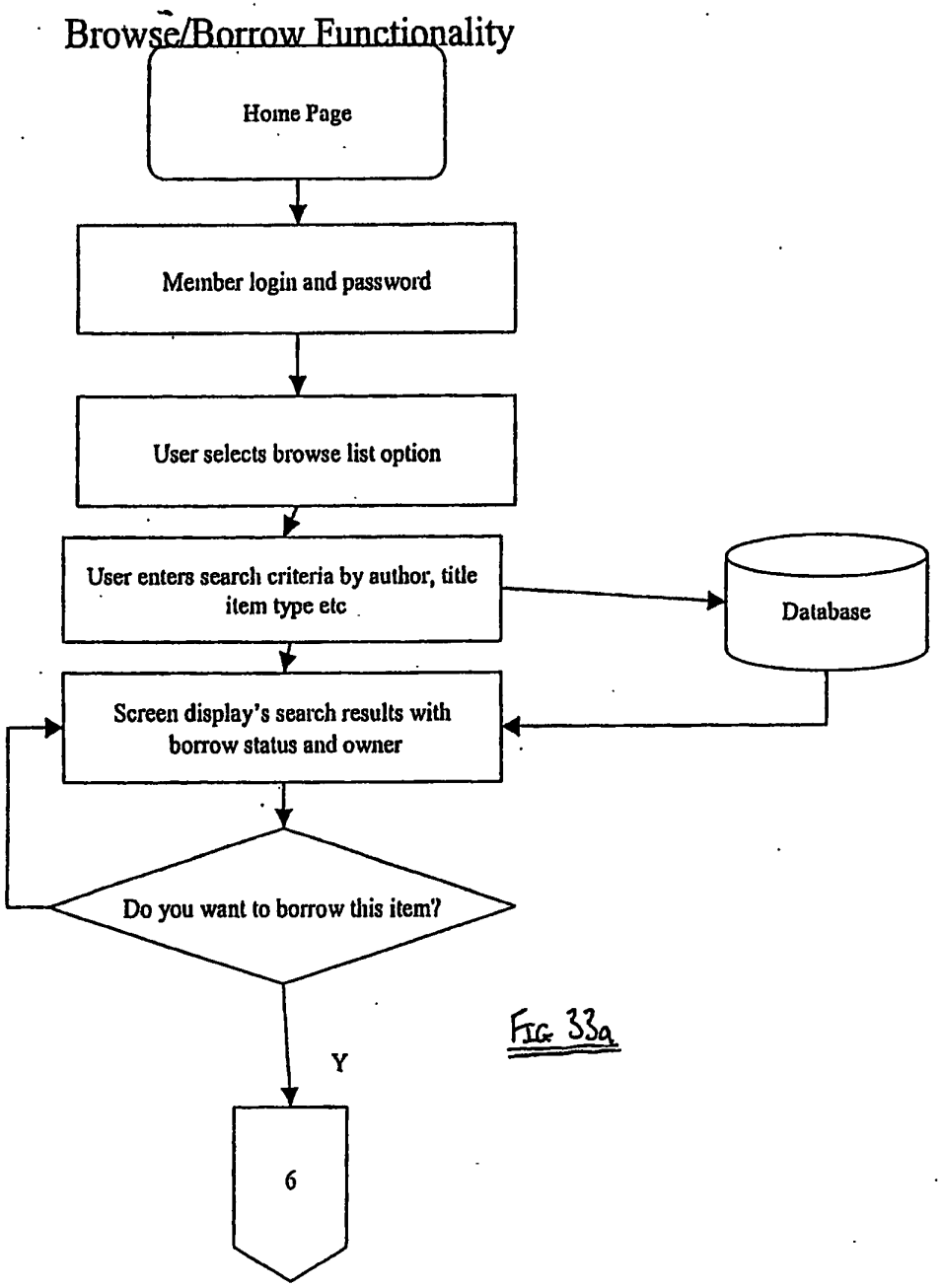

Browse/Borrow Functionality
Home Page
Member login and password
User selects browse list option
User enters search criteria by author, title item type etc
Database
Screen display's search results with borrow status and owner
Do you want to borrow this item?
Y
6

FIG 33a

Borrowing (continued)

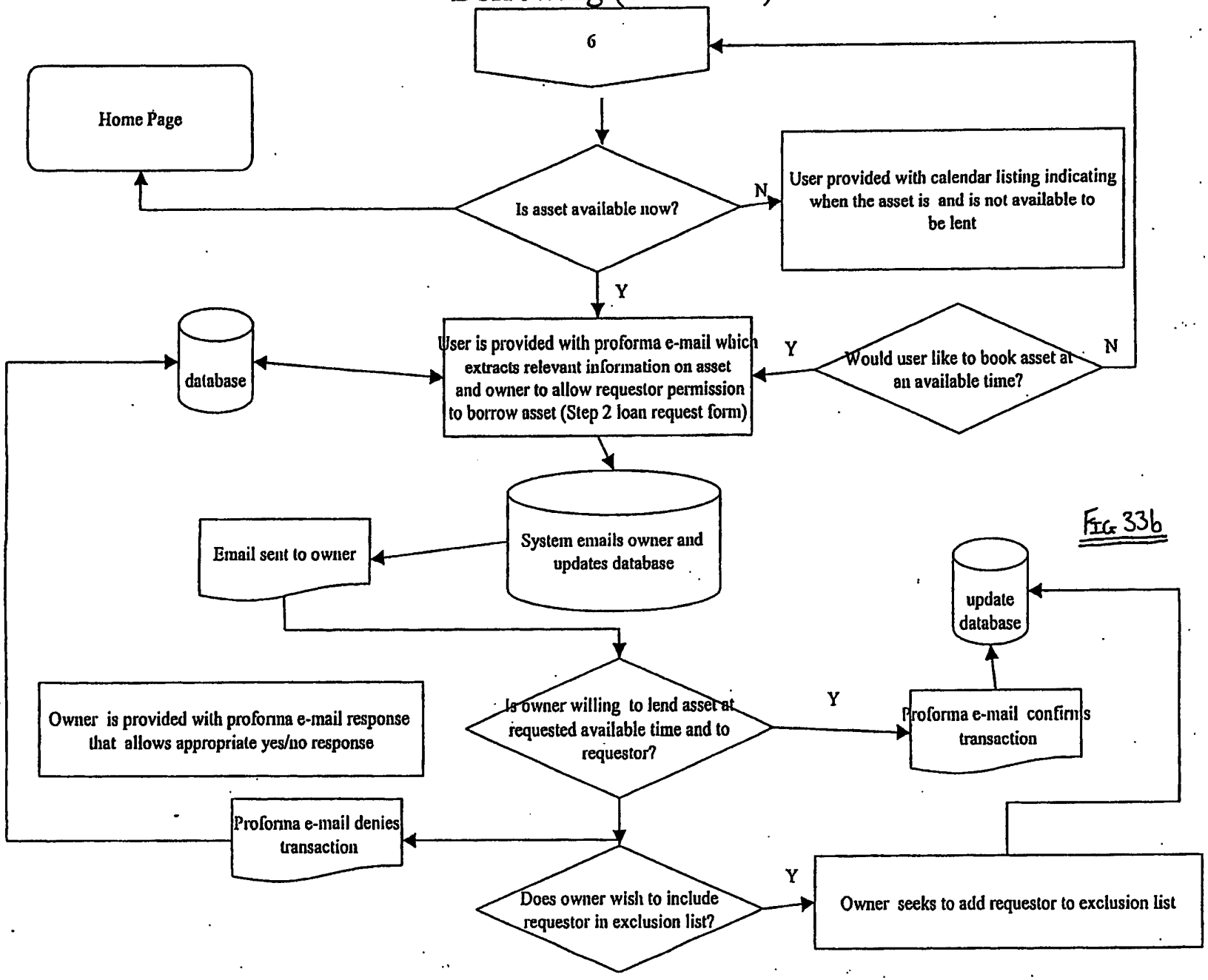


Fig 33b

Returns,Overdues and damaged items

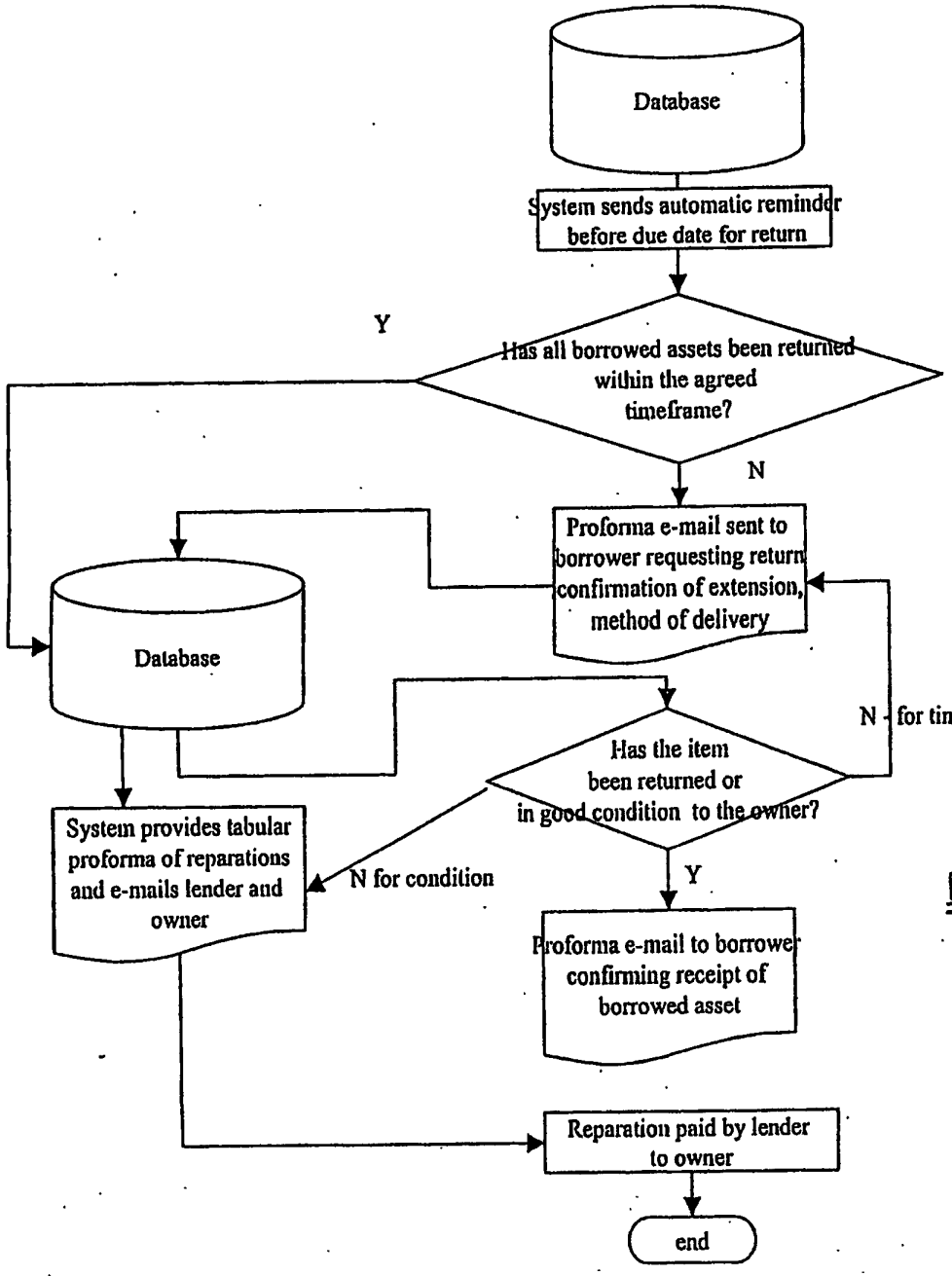


Fig 34

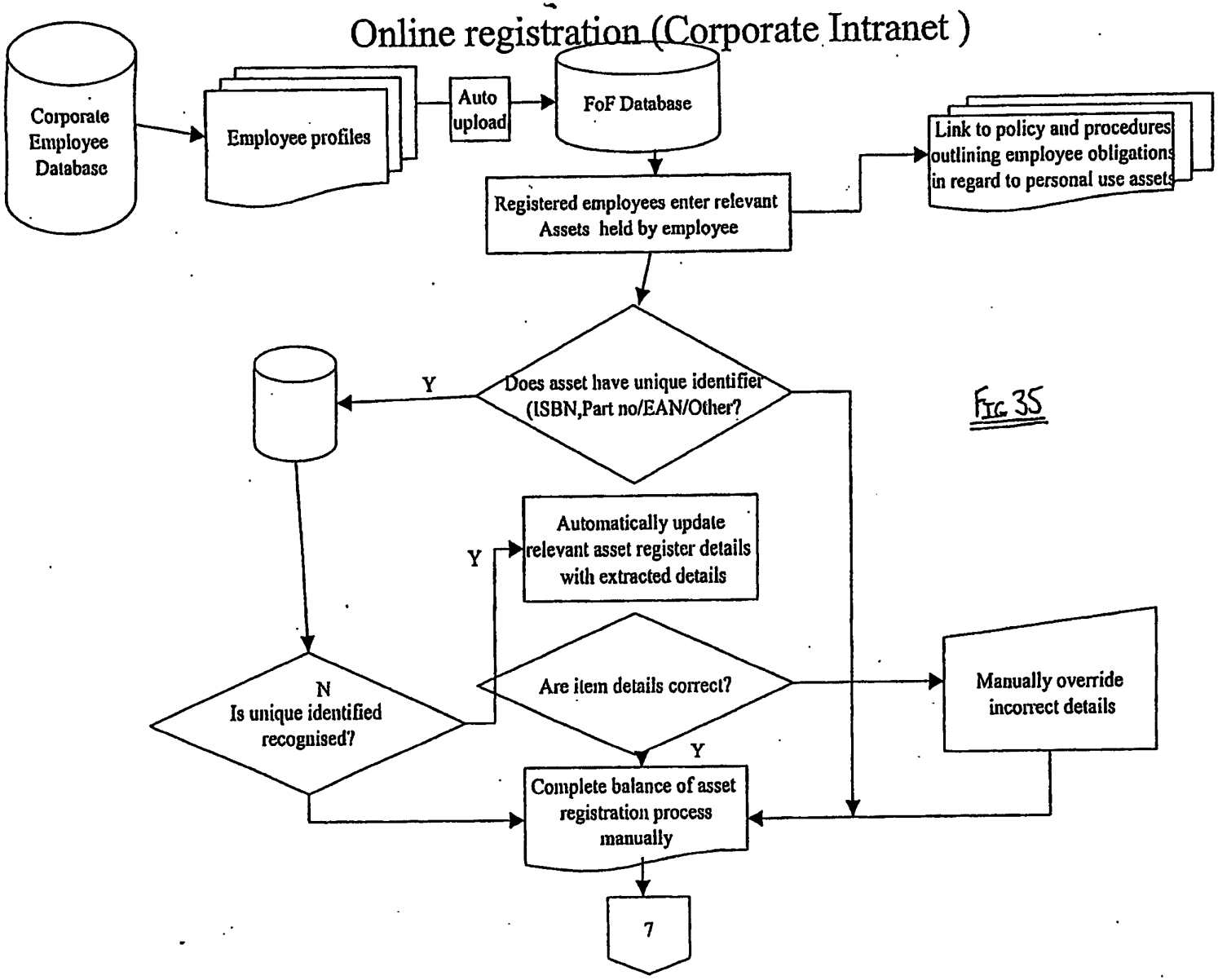

Online registration (Corporate Intranet)
Corporate Employee Database
Employee profiles
Auto upload
FoF Database
Link to policy and procedures outlining employee obligations in regard to personal use assets
Registered employees enter relevant Assets held by employee
Does asset have unique identifier (ISBN,Part no/EAN/Other?
Y
Automatically update relevant asset register details with extracted details
Y
N
Is unique identified recognised?
Are item details correct?
Manually override incorrect details
Y
Complete balance of asset registration process manually
7

Fig 35

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Online Registration (Asset lending categorisation details)

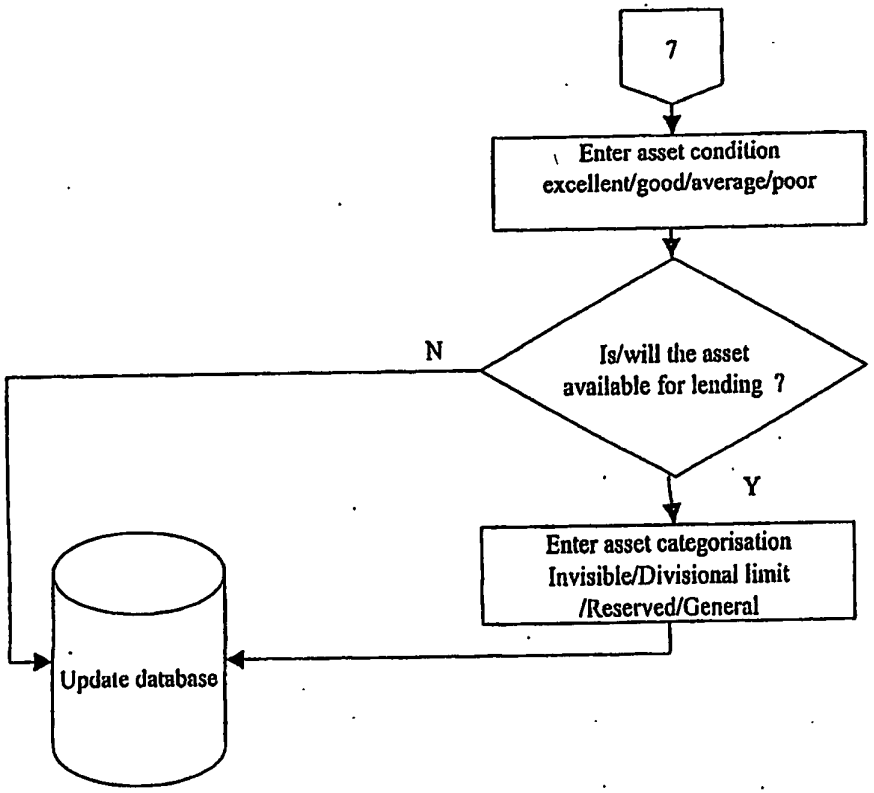

FIG. 36

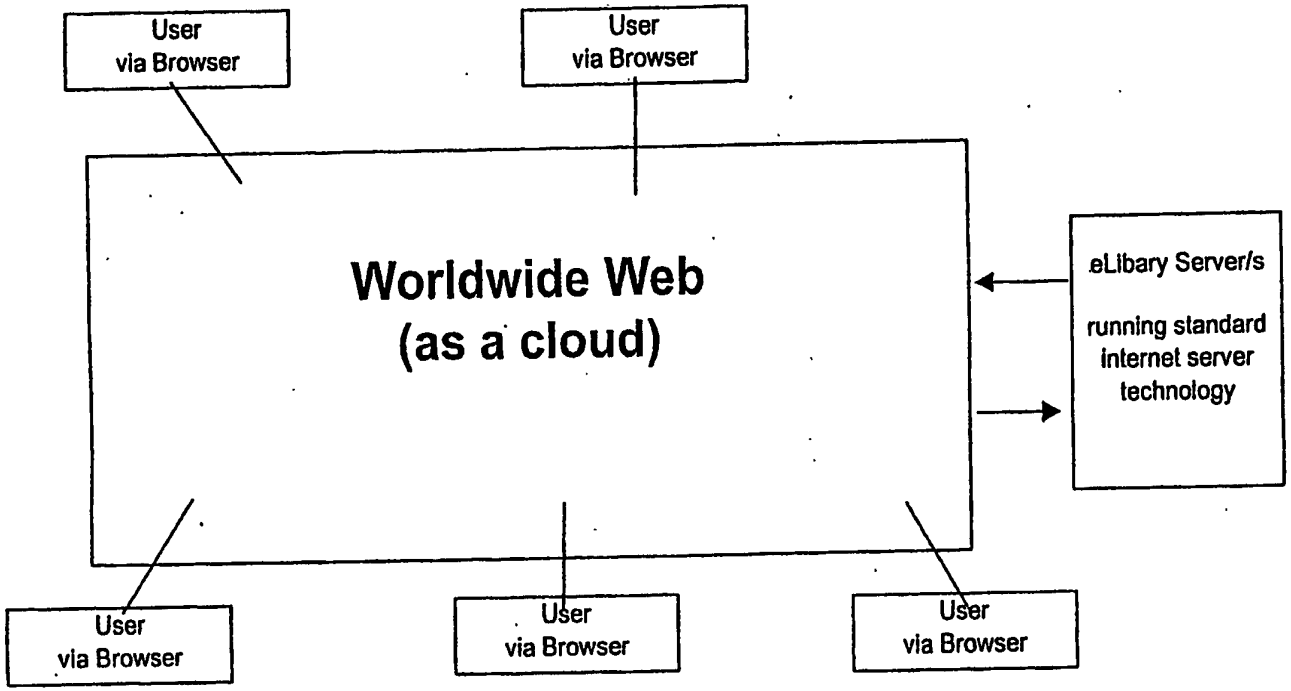
User
via Browser
User
via Browser
Worldwide Web
(as a cloud)
eLibary Server/s
running standard
internet server
technology
User
via Browser
User
via Browser
User
via Browser

FIG. 37

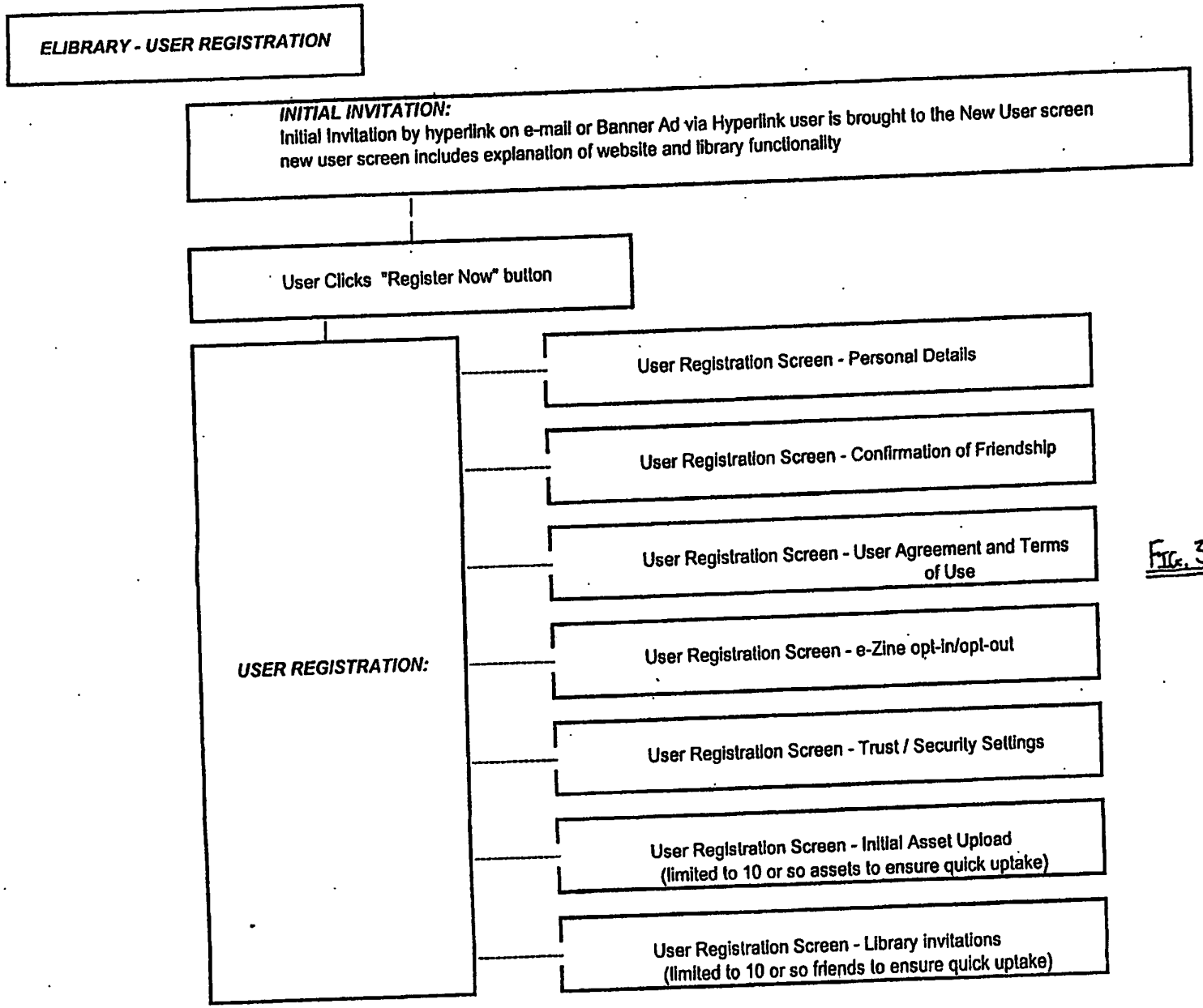
ELIBRARY - USER REGISTRATION
INITIAL INVITATION:
Initial invitation by hyperlink on e-mail or Banner Ad via Hyperlink user is brought to the New User screen
new user screen includes explanation of website and library functionality
User Clicks "Register Now" button
USER REGISTRATION:
User Registration Screen - Personal Details
User Registration Screen - Confirmation of Friendship
User Registration Screen - User Agreement and Terms of Use
User Registration Screen - e-Zine opt-in/opt-out
User Registration Screen - Trust / Security Settings
User Registration Screen - Initial Asset Upload (limited to 10 or so assets to ensure quick uptake)
User Registration Screen - Library invitations (limited to 10 or so friends to ensure quick uptake)

FIG. 38

Start

X joins the Friends-of-friends Network and enters his 20 assets on the system so that he can lend and borrow assets etc.

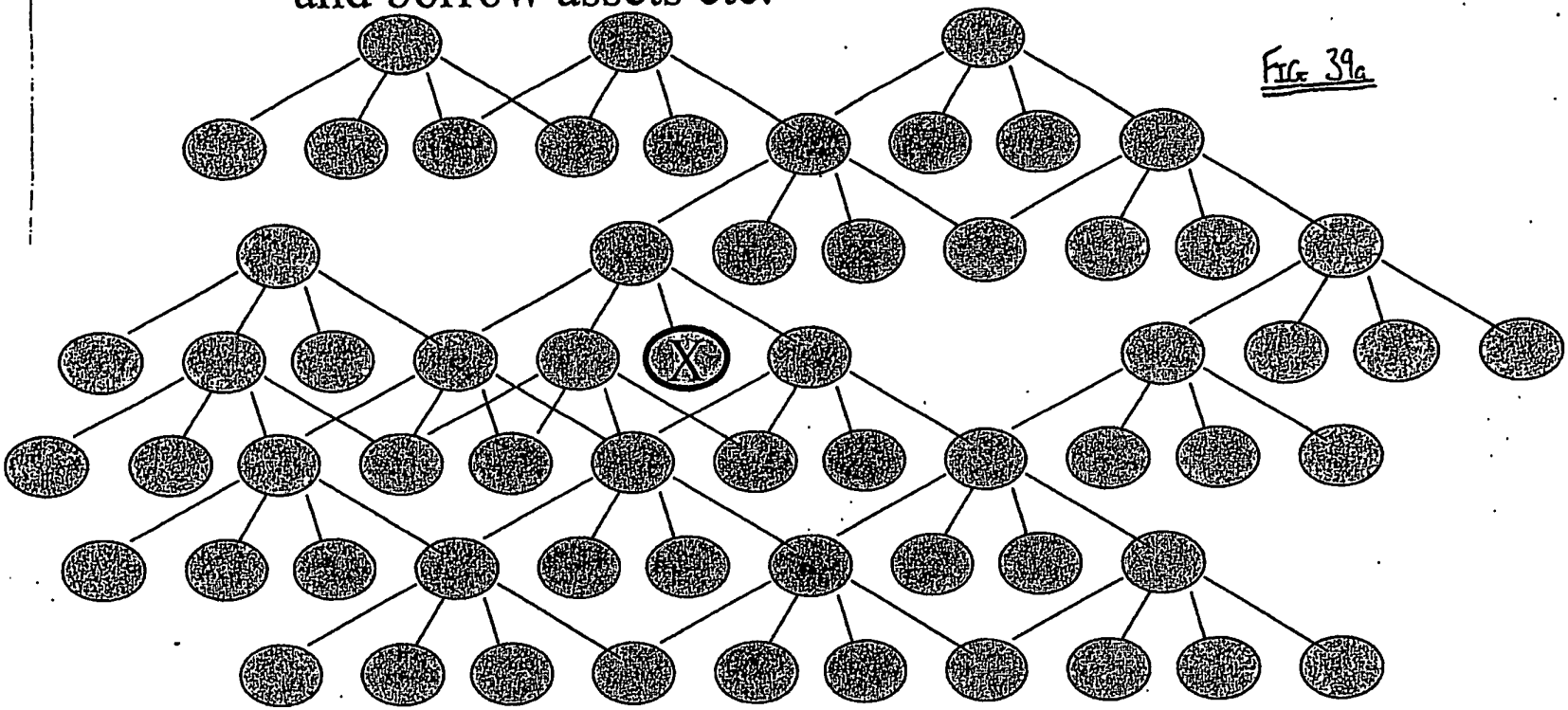

FIG. 39a

Level 1 – Friends

X through the registration process invites friends but only one friend © takes up the idea and loads up his 20 assets.

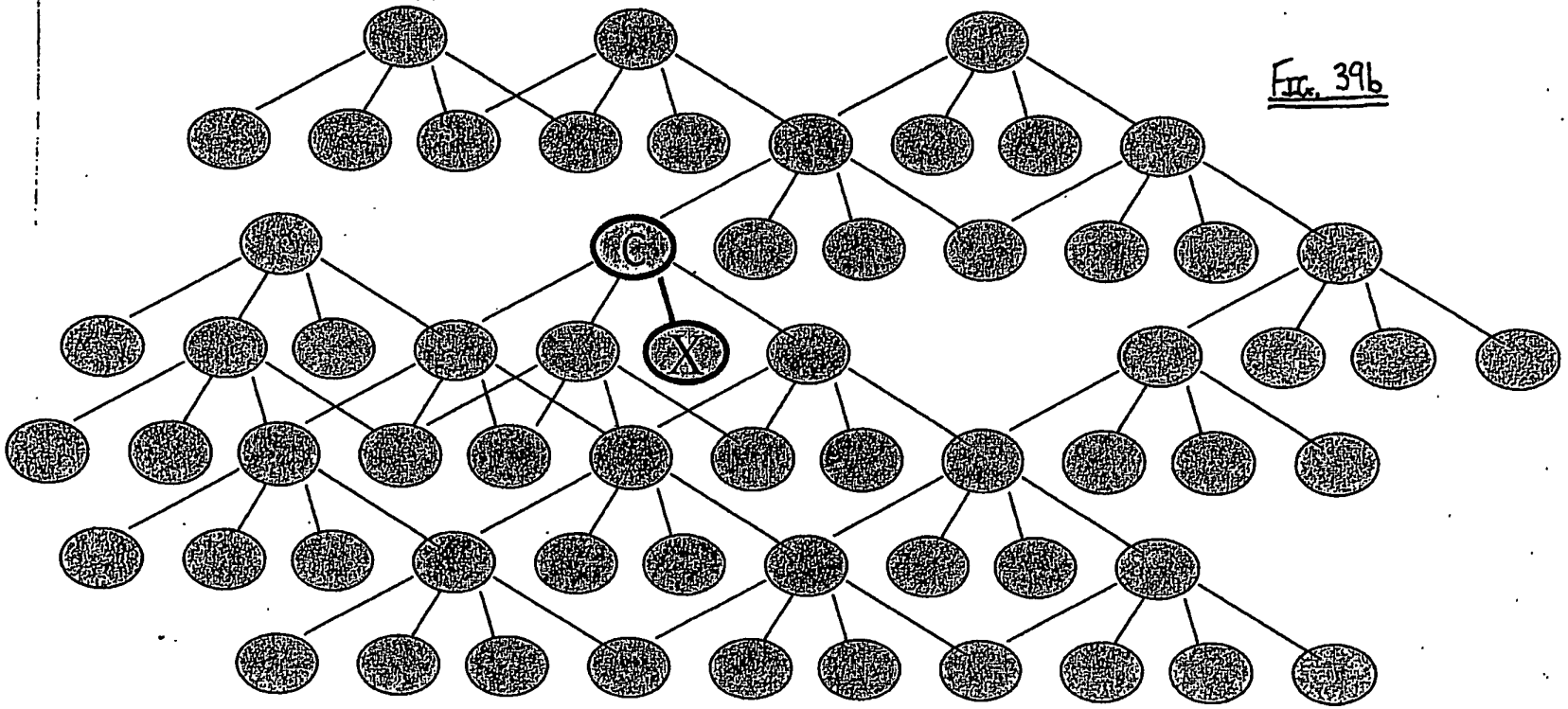

Fig. 39b

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Level 2 - Friends of Friends

C during his registration process invites other friends
4 of whom take up the idea and load up their 20 assets each.

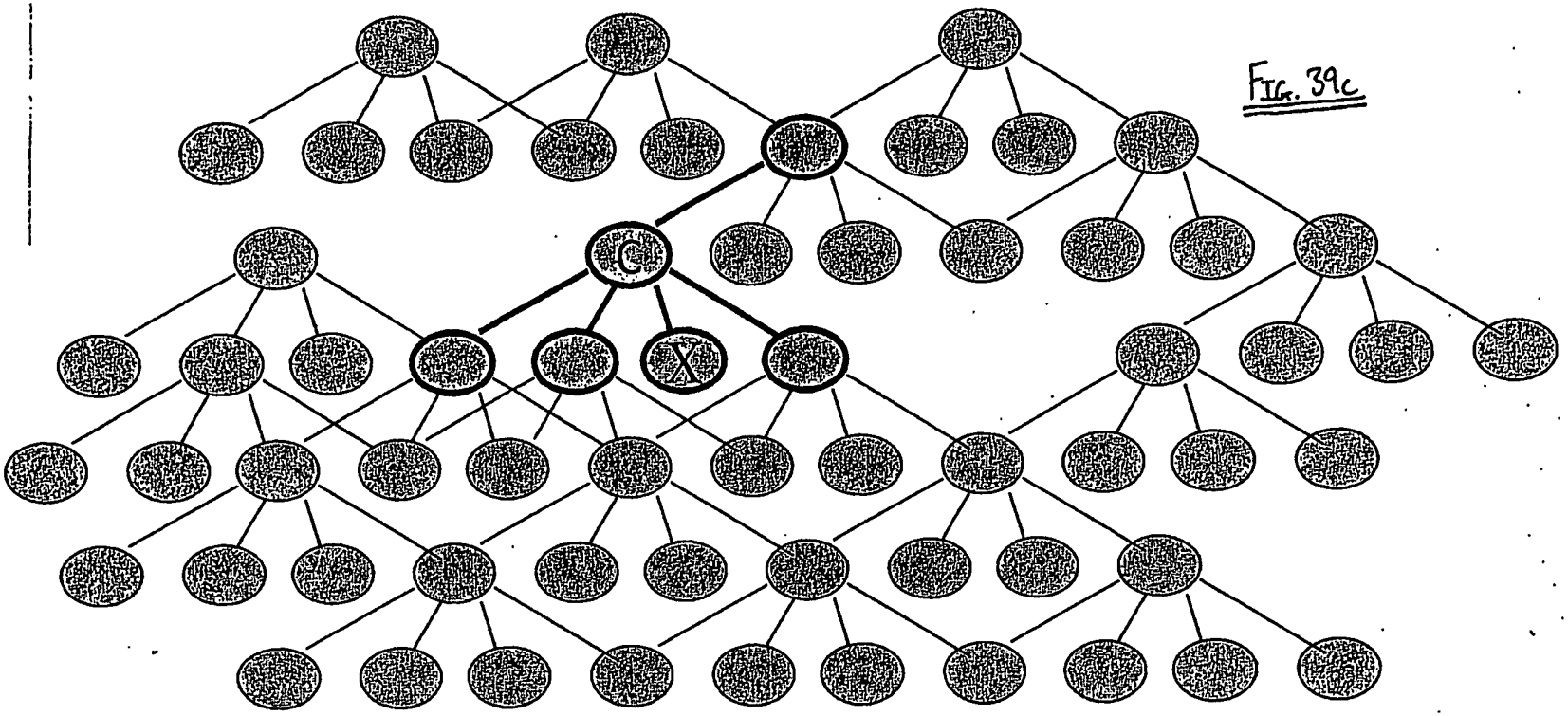
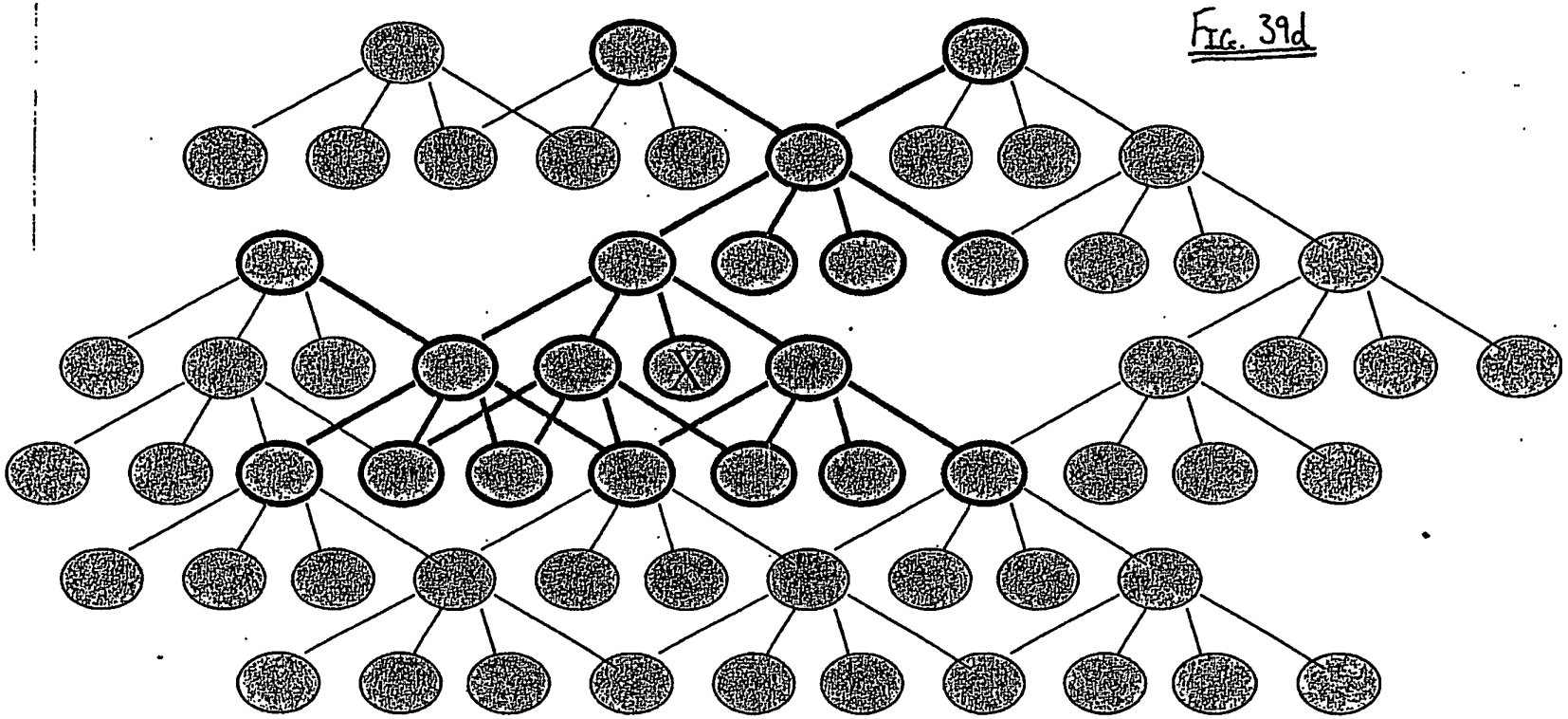


FIG. 39c

Level 3 - Friends ^ 3

They in turn link up more friends (14 in total or 3 - 4 each) who also load up 20 assets each.

FIG. 39d



Level 3 – Simplified

Simplified, X has now potentially 19 complete collections with a total of 400 assets to search

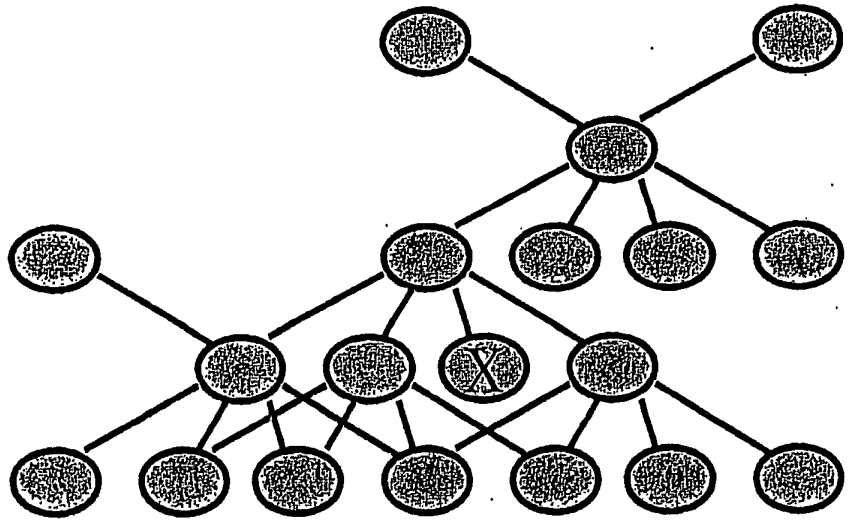
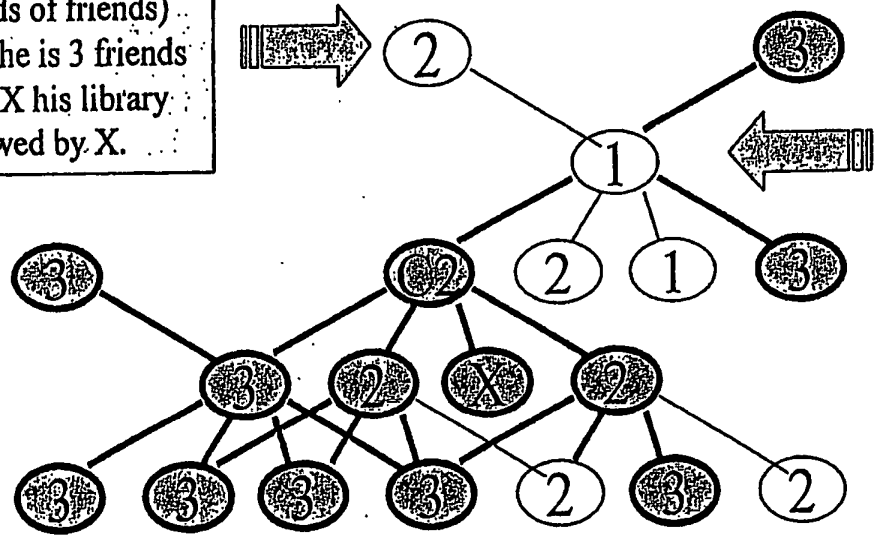


FIG. 39e

Trust Factors applied

Each person has specified a level of trust however leading to 6 members assets not being listed

ie. this person only allows level 2 (friends of friends) access, since he is 3 friends removed from X his library can not be viewed by X.



Note: Even though she has set her trust level to 1 (friends only) X may access her friend's library if they have set their access to 3

Fig. 39f

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Access is not affected by X's Trust Level but rather the Trust Level of each individual in the web of friends

Trust Levels

1. Friends have access
2. Friends of Friends have access
3. Friends of Friends of Friends have access

Simplified Network

This results in 13 asset lists that can be searched

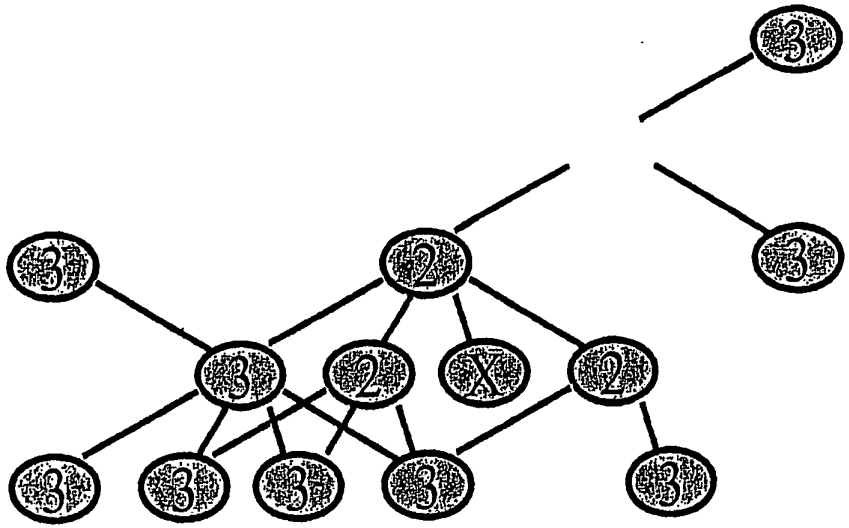

FIG. 39g

Exclusion Lists

Two users in this network however have had a bad experience with X and so have placed him on their exclusion lists so that he will not be able to view their assets.

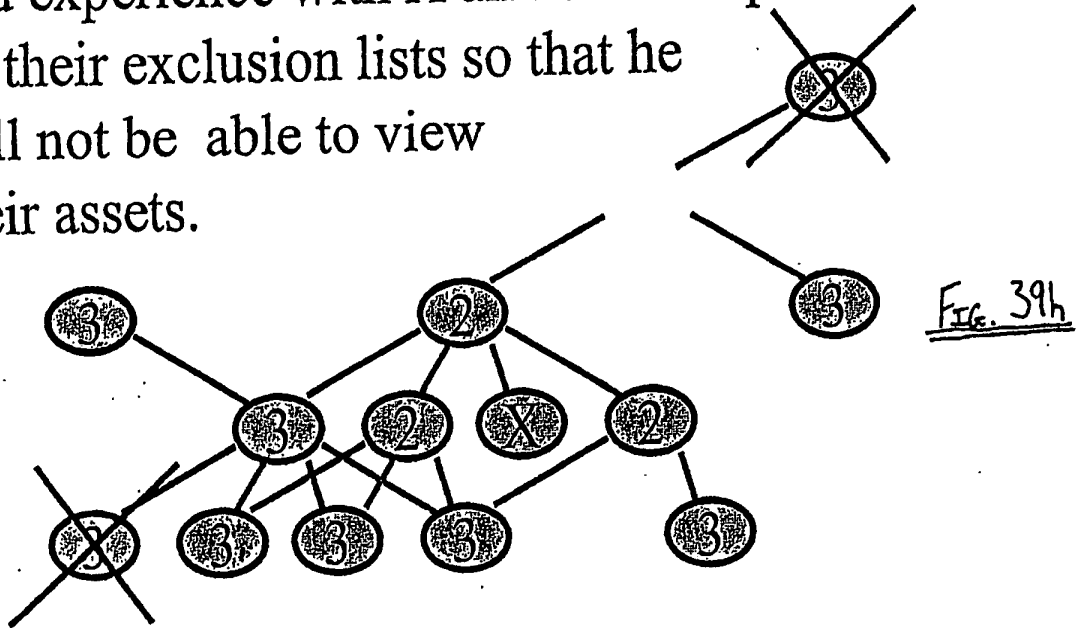

FIG. 39h

Final Network

Leaving X with a total of 11 complete asset lists to to be able to search with a total of 240 assets (including his own)

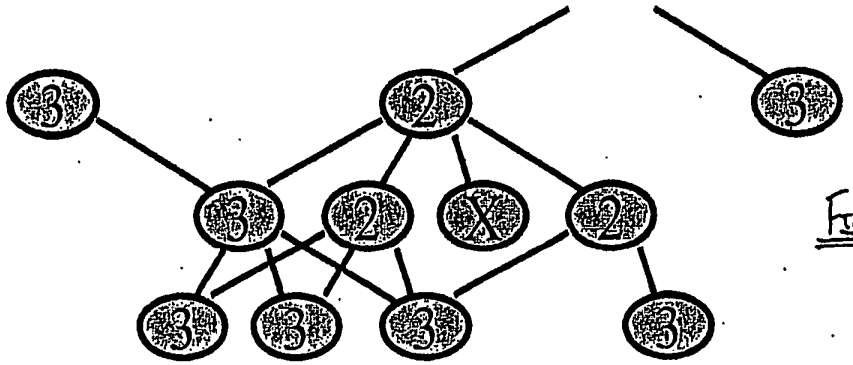

Fig. 39

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